MONTANA DEPARTMENT OF TRANSPORTATION WETLAND MITIGATION MONITORING REPORT: YEAR 2003

Lame Deer - East Mitigation Sites Lame Deer, Montana



Prepared for:

MONTANA DEPARTMENT OF TRANSPORTATION 2701 Prospect Avenue Helena, MT 59620-1001

Prepared by:

LAND & WATER CONSULTING, INC. P.O. Box 8254 Missoula, MT 59807



March 2004

Project No: 130091.040

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1.0 INTRODUCTION

This annual report summarizes methods and results from the second year (2003) of monitoring for the Montana Department of Transportation's (MDT) Lame Deer - East mitigation site. The Lame Deer - East wetlands, located in Watershed #4 of the Glendive District, were constructed to mitigate in part for the 2.5 acres of wetland impact to the Alderson Creek corridor during the Hwy. 212 reconstruction project. The monitoring site is located in Rosebud County within the town of Lame Deer, Section 34, Township 2 South, Range 41 East (**Figure 1**). There are three (3) mitigation sites within this area: the Lame Deer – East site is adjacent to a school in the center of town and is often referred to as the "school mitigation or reserve site"; and two recreated wetlands are located along Highway 212, Wetland 369 and Wetland 380 (the numbers correlate with MDT project stations). Elevations of all three mitigation sites range from 3,250 to 4,337 feet above sea level.

The Lame Deer - East monitoring site wetland (in this report referred to as the School Mitigation Site) was constructed in July/August 2001 within the historic floodplain of Lame Deer Creek; fill was historically placed within the current mitigation site to create a ball field for the school (**Figure 2, Appendix A**). The fill was removed to create and restore wetlands in the area; the intent was to create 1.23 acres and restore 0.56 acres for a total of 1.79 acres. The wetland is bisected by a sewer line that was in place prior to the wetland construction; fill removed from the constructed wetland areas was placed on top of the sewer line to create a thermal barrier (Martin 2001) and in effect an access trail to the creek. The area represented by the sewer line/trail system represents approximately 0.1 acre, which adjusts the intended size of the mitigation wetland to 1.68 acres. The resulting areas within the bisected wetland are referred to as the north and south cell in this report.

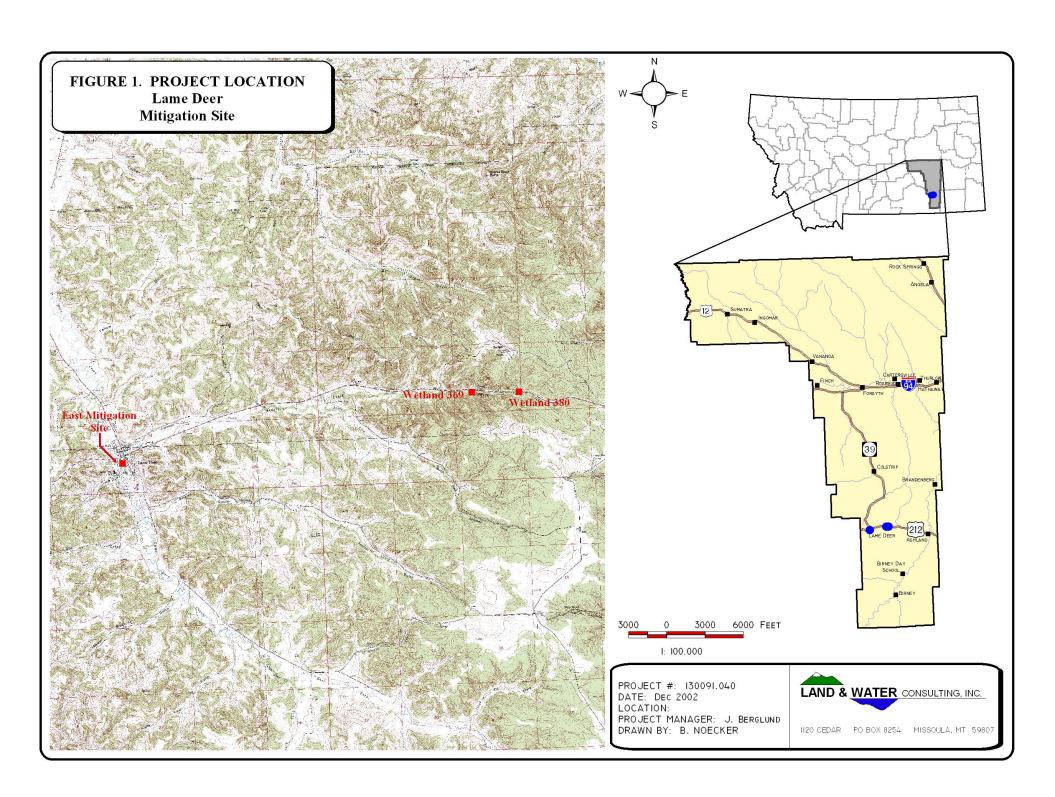
The two recreated wetlands along Hwy. 212 are adjacent to Alderson Creek: Wetland 369 is approximately 4.75 miles from the intersection of Hwy. 39 and 212 in Lame Deer (station numbers increase in an easterly direction from Lame Deer), and Wetland 380 is 5.5 miles from the intersection. The intent of these mitigation efforts was to recreate approximately 1.5 acres of wetland (Harris 1999, on file at MDT). Site plans are included in **Appendix D**. The recreated wetlands were photographed to monitor wetland development and the wetland acreage was estimated by recording the wetland boundary on an aerial photograph (**Figure 3, Appendix F**).

2.0 METHODS

2.1 Monitoring Dates and Activities

All three Lame Deer-East wetland mitigation sites were monitored on June 23, 2003. A full site investigation involving the collection of data for the Wetland Mitigation Site Monitoring Form was conducted on the school mitigation site, including COE sample point data and MDT functional assessments (**Appendix B**). Activities and information conducted/collected for the full monitoring assessment at the school mitigation site included: wetland delineation; wetland/open water data; vegetation community mapping; vegetation transects; soils data;





hydrology data; bird and general wildlife use; photograph points; GPS data points; functional assessment; and, maintenance assessment of any inflow/outflow structures (non-engineering).

At the recreated wetlands along Hwy. 212, COE sample point, wetland boundary, and MDT functional assessment data were collected (**Appendix F**). Photographs were taken from photo reference points during the same monitoring event.

2.2 Hydrology

Wetland hydrology indicators were recorded using procedures outlined in the US Army Corps' (COE) 1987 Wetland Delineation Manual (Environmental Laboratory 1987). Hydrology data were recorded on the Routine Wetland Delineation Data Form (**Appendix B**) at each wetland determination point. Precipitation data for the year 2003 were compared to the 1971-2000 average (WRCC 2003).

All additional hydrologic data were recorded on the school mitigation site monitoring form (**Appendix B**). The boundary between emergent vegetation and open water was mapped on the aerial photograph (**Figure 3, Appendix A**). There are no groundwater monitoring wells at the site.

The open water boundary at the Hwy. 212 recreated wetlands was mapped on aerial photographs and quantified (**Figure 3, Appendix F**).

2.3 Vegetation

General vegetation types within the school mitigation site were delineated on an aerial photograph during the site visit (**Figure 3, Appendix A**). Coverage of the dominant species in each community type is listed on the monitoring form (**Appendix B**). A comprehensive plant species list for the entire site was compiled and will be updated as new species are encountered. Observations from past years will be compared with new data to document vegetation changes over time. Woody species were planted at the school mitigation site and are listed on the monitoring form.

A transect was established in each cell of the school mitigation site; the location of the transects is shown on **Figure 2**, **Appendix A**. Percent cover for each species was recorded on the vegetation transect form (**Appendix B**). Transect ends were marked with metal fence posts and their locations recorded on the vegetation map. Photos of the transect were taken from both ends during the site visit.

The emergent vegetation boundary at the Hwy. 212 recreated wetlands was mapped on aerial photographs and quantified (**Figure 3, Appendix F**).



2.4 Soils

Soils were evaluated during the site visit according to the procedure outlined in the COE 1987 Wetland Delineation Manual. Soil data were recorded for each wetland determination point on the COE Routine Wetland Delineation Data Form (**Appendix B-School Site**; **Appendix F-HWY** 212 Wetland Sites).

2.5 Wetland Delineation

A wetland delineation was conducted within the assessment area according to the 1987 COE Wetland Delineation Manual. Wetland and upland areas within the monitoring area were investigated for the presence of wetland hydrology, hydrophytic vegetation and hydric soils. The indicator status of vegetation was derived from the National List of Plant Species that Occur in Wetlands: North Plains Region 4 (Reed 1988). The information was recorded on the COE Routine Wetland Delineation Forms (**Appendix B-S**chool Site; **Appendix F-HWY** 212 Wetland Sites). The wetland/upland and open water boundaries were used to calculate the wetland area (**Figure 3, Appendix A**). The wetland boundaries of the recreated wetlands along Hwy. 212 were drawn onto aerial photographs (**Figure 3, Appendix F**).

2.6 Mammals, Reptiles, and Amphibians

Mammal, reptile, and amphibian species observations were recorded on the wetland monitoring form during the site visit (**Appendix B**). Indirect use indicators were also recorded including tracks, scat and burrows. A comprehensive wildlife species list for the entire site was compiled and will be updated as new species are encountered. Observations from past years will be compared with new data to determine if wildlife use is changing over time.

2.7 Birds

Bird observations were recorded during the site visit according to the established bird survey protocol (**Appendix E**). A general, qualitative bird list has been compiled using these observations. Observations will be compared between years in future studies.

2.8 Macroinvertebrates

No macroinvertebrate samples were collected on the site.

2.9 Functional Assessment

A functional assessment form was completed in 2003 for all mitigation monitoring sites using the 1999 MDT Montana Wetland Assessment Method. Field data necessary for this assessment were collected on a condensed data sheet. The remainder of the assessment was completed in the office. Completed functional assessment forms for the school site are included in **Appendix B**. Functional assessments of the Hwy. 212 recreated wetlands were also conducted; completed forms are included in **Appendix F**.



2.10 Photographs

Photographs were taken showing the current land use surrounding the mitigation monitoring site, the wetland buffer, the monitored area, and the vegetation transect (**Appendix C**). A description and compass direction for each photograph were recorded on the wetland monitoring form. During the 2002 monitoring season, each photo-point was marked on the ground with a wooden stake and the location recorded with a resource grade GPS. The approximate photograph locations are shown on **Figure 2**, **Appendix A**. A 2003 aerial photograph is included in **Appendix C**.

Photographs were also taken of the recreated wetlands east of Lame Deer along Hwy. 212 (**Appendix F**); aerial photographs and photo logs of the recreated wetlands are also included in **Appendix F**. All on-site photographs were taken a digital camera.

2.11 GPS Data

During the 2002 monitoring season, survey points were collected at the monitoring site using a resource grade Trimble, Geoexplorer III hand-held GPS unit (**Appendix E**). Points collected at the school site included: the vegetation transect beginning and ending locations; photograph locations; and the jurisdictional wetland boundary. In addition, survey points were collected at several landmarks recognizable on the air photo for purposes of line fitting to the topography. At wetlands 369 and 380, photo reference points and photo location data were also collected using GPS.

2.12 Maintenance Needs

No bird boxes or were located within this site. The inflow structure was checked for obstructions.

3.0 RESULTS

3.1 Hydrology

The Lame Deer - East mitigation monitoring site was constructed in July/August 2001 to be a 1 to 1.5-acre wetland within the floodplain of Lame Deer Creek. The hydrologic source of the mitigation wetland is primarily ground and stormwater and secondarily overbank flows from Lame Deer Creek. Stormwater enters the southwest corner of the south cell through an upgradient culvert under the access road. The north and south cells were created when fill from the wetland construction was placed over the sanitary sewer line to protect it from damage; the sewer line and fill effectively create the two cells.

During the June 23, 2003 visit, the south cell site was nearly inundated with less than 8 inches of standing water. The north cell had no surface water but was saturated in areas. Wetlands 369 and 380 were inundated. The outlet culvert in wetland 369 was plugged by sediment and debris, thus there was no surface connection to the downstream reach of Alderson Creek.



Precipitation data for the Busby station indicate that the yearly average (1977-2000) was 14.49 inches (WRCC 2003); through the month of June the average precipitation was 8.17 inches. During 2003, precipitation through the month of June was 11.83 inches or 144% of the average. After the month of June the precipitation rate decreased below the monthly averages.

3.2 Vegetation

Vegetation species identified within both cells of the school monitoring site are presented in **Table 1** and in the monitoring form (**Appendix B**). Five (5) vegetation communities are mapped on the mitigation area map (**Figure 3, Appendix A**). The communities are similar in composition but differ in percent cover. The communities include: Type 1, *Scirpus* spp.; Type 2, *Hordeum jubatum/Eleocharis palustris;* Type 3, *Salix exigua/Puccinellia nuttalliana*; Type 4, Upland (Undeveloped Wetland 2002); Type 5 *Agropyron sp./Melilotus officinale; and Type 6, Melilotus officinale.*. Dominant species within each community are listed on the monitoring form (**Appendix B**). The vegetation transect results are detailed in the monitoring form (**Appendix B**) and are summarized below in **Tables 2** and **3**, the transect maps, and **Charts 1** and **2**.

Total vegetation cover and percent cover of wetland species has increased in the south cell along transect 1 since 2002 (**Table 2**). Most of the sprigged willows continue to survive and the basin of the cell is gradually being colonized with several species of hydrophytic vegetation. The south cell likely receives water through the storm culvert several times throughout the year which is resulting in wetland development.

The transect within the north cell was established in 2002 (**Table 3**). Only 28% of the north cell transect has developed wetland vegetation. Yellow sweetclover appears to be out-competing most vegetation species except where the soil is saturated within the small wetland areas. The substrate was saturated within the wetland areas and in scattered locations within the north cell. Surface water does not enter the north cell unless the creek overflows its banks; it is unknown what magnitude flood is required for this event to occur.

Wetland vegetation at W-369 has not developed because of excessive inundation, likely as a result of culvert blockage. A few individual *Puccinellia* plants were observed emerging from water >1 foot deep. Wetland-380 has developed wetland vegetation around the perimeter and into the open-water zone. The upstream end of the wetland is developing into a saturated emergent wetland that includes several species of *Juncus* and *Carex*.

3.3 Soils

The site was mapped as part of the Rosebud County Soil Survey. The soil series on the mitigation site is Straw-Canburn complex (Map Unit 172). The Straw component is a non-hydric well drained loam and the Canburn is a hydric very poorly drained loam. The dominant parent material in both components is alluvium with infrequent flooding of the Straw component and frequent flooding of the Canburn component.



Along route 212 in the vicinity of the recreated wetland sites, the soils are Bitton-Shambo complex (Map Unit 26); a well drained channery loam and loam (respectively) soil complex.

Soils were sampled at two wetland locations (SP-1: South Cell) and one upland (SP-3: North Cell). Soils at SP-1 were an olive brown (2.5Y 4/3) gravelly silty sand from 0-8 inches. From 8-18 inches the soil was a light olive brown (2.5Y 5/3) silt sand with bluish gray (Gley 2 5/5PB) streaks. In the north cell, Sp-3 was gravelly with red rock chips from 0-3 inches (olive brown: 2.5Y 4/3) with organic streaking. From 3-18 inches the soil was the same as the first layer with streaks of bluish gray (Gley 2 5/5PB) and light olive brown (2.5Y 5/6) mottles. Saturation was noted in both cells. COE data sheets for the 369 and 380 wetlands are included in **Appendix F**.

Table 1: 2002-2003 School Mitigation Site Vegetation Species List

Scientific Name	Region 4 (North Plains) Wetland Indicator Status
Agropyron spp.	FAC-FACU
Chenopodium hybridum	-(FAC)
Carex spp.	(unknown; likely FACW-OBL)
Eleocharis palustris	OBL
Equisetum hyemale	FACW
Glyceria elata	-(OBL in Region 9)
Hordeum jubatum	FACW
Juncus bufonius	OBL
Lactuca serriola	FACU
Melilotus officinalis	FACU-
Populus tremula	FAC
Puccinellia nuttalliana (confirm in 2004)	OBL
Rumex crispus	FACW
Salix exigua (planted)	FACW+
Scirpus acutus	OBL
Scirpus pungens	OBL
Trifolium spp.	(unknown-assumed UPL)
Typha latifolia	OBL

^{-:} Species not listed in the National List of Plant Species that Occur in Wetland (Reed 1988); parenthetical status is assumed.

Bolded species indicate those documented within the analysis area for the first time in 2003.

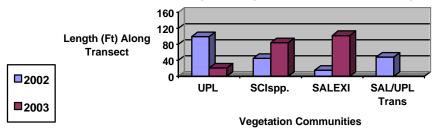
Table 2: 2002-2003 Transect 1 Data Summary

Monitoring Year	2002	2003
e		
Transect Length	207 ft	207 ft
# Vegetation Community Transitions along Transect	3	3
# Vegetation Communities along Transect	3	3
# Hydrophytic Vegetation Communities along Transect	2	2
Total Vegetative Species	9	8
Total Hydrophytic Species	6	5
Total Upland Species	3	3
Estimated % Total Vegetative Cover	53%	80%
% Transect Length Comprised of Hydrophytic Vegetation Communities	29%	90%
% Transect Length Comprised of Upland Vegetation Communities	71%	10%
% Transect Length Comprised of Unvegetated Open Water	0%	0%
% Transect Length Comprised of Bare Substrate	0%*	0%

^{*} Bare substrate a high percent (38%) within wetland area in 2002; first year of WL development.



Chart 1: Length of Vegetation Communities along Transect 1



Transect 1 Map (South Cell) 2002

		**********	elikaran meneran meneran di			
T	WL	UPL	Transition	WL		P. 1
Transect 1	Type 1	Type 4	Type 3/4	Type 3	Total 207'	End
Start	(45')	(99')	(48')	(15')		Transect I
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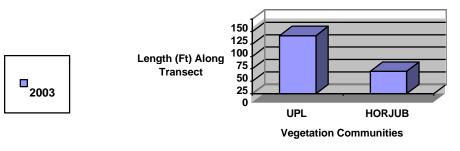
Transect 1 Map (South Cell) 2003

- 5			*********					
8	Transect 1	UPL Type 6	WL Type 3	WL Type 1	UPL Type 6	Total	End	
	Start	(12')	(102')	(84')	(9')	207'	Transect 1	

Table 3: 2003 Transect 2 Data Summary

Monitoring Year	2003
Transect Length	162 ft
# Vegetation Community Transitions along Transect	4
# Vegetation Communities along Transect	2
# Hydrophytic Vegetation Communities along Transect	1
Total Vegetative Species	12
Total Hydrophytic Species	9
Total Upland Species	3
Estimated % Total Vegetative Cover	100%
% Transect Length Comprised of Hydrophytic Vegetation Communities	28%
% Transect Length Comprised of Upland Vegetation Communities	72%
% Transect Length Comprised of Unvegetated Open Water	0%
% Transect Length Comprised of Bare Substrate	0%

Chart 2: Length of Vegetation Communities along Transect 2



Transect 2 Map (North Cell) 2003

- 9								
0.000	Transect 2 Start	UPL Type 5 (24')	WL Type 2 (36')	UPL Type 5 (12')	WL Type 2 (9')	UPL Type 5 (81')	Total 162'	Transect 2 End



3.4 Wetland Delineation

The delineated wetland boundary is depicted on **Figure 3**, **Appendix A**. The delineation resulted in a total of 0.84 acre of wetland development within the north and south cells; an increase of 0.69 acre since 2002. (Wetlands within the north cell were undeveloped and not assessed in 2002.) In 2002, a preponderance of the area within the cells did not qualify as wetland because of the lack of hydrophytic vegetation. In 2003 approximately 20% of the south cell was inundated with very shallow water (<6" deep); this open water area was not recorded on **Figure 3** because it was the result of a recent storm and it was quite shallow. Groundwater appeared to be within 1 foot of the ground surface within both of the cells; more so in the south cell than the north cell. The COE data forms are included in **Appendix B**.

The estimated gross wetland acreages for the recreated wetlands along Hwy. 212 were 0.57 acre at Wetland 369 and 0.23 acre at Wetland 380 for a total of 0.8 acre (**Figure 3, Appendix F**). Wetland 369 was 9% vegetated in the saturated zone and wetland 380 was 39% vegetated. The total gross wetland acreage within the three Lame Deer-East mitigation sites is 1.64 acres.

3.5 Wildlife

Wildlife species are listed in **Table 4**; no signs were observed although several species of birds and mammals were noted during the 1999 survey (Harris 1999). No bird boxes have been installed at this site.

Table 4. 2002-2003 Wildlife Species Observed at the School Mitigation Site

BIRDS	
Common Yellowthroat (Geothlypis trichas)*	Yellow Warbler* (Dendroica petechia)
Song Sparrow* (Melospiza melodia)	Common Grackle* (Quiscalus quiscula)
American Robin (Turdus migratorius)	
MAMMALS	
none	

^{*}Individuals not in wetland but in adjoining upland.

Bolded species indicate those documented within the analysis area for the first time in 2003.

3.6 Macroinvertebrates

No macroinvertebrate samples were collected on the site.

3.7 Functional Assessment

Completed functional assessment forms for the school monitoring site are included in **Appendix B** and summarized below in **Table 5**. The 1999 functional assessment is not directly comparable because the AA included 20-30 acres of floodplain on the north and south sides of Hwy. 212. The assessment does provide valuable information regarding the baseline characteristics of floodplain wetlands in that area; the general wetland floodplain rated as a Category III wetland in 1999 (Harris 1999).



The school mitigation monitoring site scored as a Category III wetland in 2003, primarily as a result of a high rating in the groundwater discharge parameter and moderate ratings for five other variables, including: sediment removal, water storage, and wildlife variables. Since 2002 the school mitigation site has gained 3.03 functional units. Wetlands 369 and 380 were also rated as Category III wetlands (**Table 5**); functional assessments are included in **Appendix D**. Total functional unit gain for all Lame Deer-East Mitigation sites during 2003 is 8.31 units.

3.8 Photographs

Representative photos taken from photo points and transect ends are included in **Appendix C.** Photos of the recreated wetlands along Hwy. 212 are included in **Appendix F.**

3.9 Maintenance Needs/Recommendations

The stormwater inlet culvert in the southwest corner of the south cell was in working order and requires no maintenance. It remains unknown how much hydrology will be provided by groundwater to the north cell; groundwater is the primary water source. At flood stage Lame Deer Creek may enter the north cell but must surpass the surrounding berm to flood the cell. The rate of wetland development in the north cell will determine if groundwater will provide sufficient hydrology.

3.10 Current Credit Summary

Wetlands impacted during the Lame Deer – East project totaled 2.5 acres (Harris, 1999). The intended size of the school mitigation site wetland was 1.68 acres. The site is bisected by a sewer line, which has effectively created a north and south cell

The school mitigation site wetland was constructed in July/August 2001 and is in the initial stages of developing hydric characteristics. The south and north cells have developed 0.84 acre of wetlands as of July of 2003. Wetland acreage within wetlands 369 and 380 was 0.8 acre. Total gross wetland acreage at the three sites is 1.64 acres. All three sites rated as Category III wetlands.



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Table 5: Summary of 1999¹, 2002-2003 Wetland Function/Value Ratings and Functional Points at the Lame Deer-East Mitigation Sites

Function and Value Parameters From the 1999 MDT Montana Wetland Assessment Method	1999¹	2002	2003 School Site	2003 W-369	2003 W-380
Listed/Proposed T&E Species Habitat	Low (.3)	Low (0)	Low (0)	Low (0)	Low (0)
MNHP Species Habitat	Low (0)	Low (0)	Low (0)	Low (0)	High (.8)
General Wildlife Habitat	High (.7)	Moderate (.5)	Moderate (.5)	High (.8)	High (.8)
General Fish/Aquatic Habitat	NA	NA	NA	Moderate (.6)	Moderate (.6)
Flood Attenuation	Moderate (.4) ²	Low (.2)	Low (.2)	Low (.1)	Low (.1)
Short and Long Term Surface Water Storage	-	Moderate (.6)	Moderate (.6)	Moderate (.4)	Moderate (.4)
Sediment, Nutrient, Toxicant Removal	High (1)	Moderate (.7)	Moderate (.7)	Moderate (.6)	Moderate (.6)
Sediment/Shoreline Stabilization	Moderate (.7)	NA	NA	Low (.3)	Low (.3)
Production Export/Food Chain Support	High (.8)	Moderate (.5)	Moderate (.5)	Moderate (.6)	Moderate (.6)
Groundwater Discharge/Recharge	NA	High (1)	High (1)	High (1)	NA
Uniqueness	Moderate (.5)	Low (.3)	Low (.3)	Low (.3)	Low (.3)
Recreation/Education Potential	Moderate (.5)	Low (.1)	Moderate (.5)	High (1)	High (1.0)
Actual Points/Possible Points	4.9/9	3.9/10	4.3/10	5.7/12	5.5/11
% of Possible Score Achieved	54%	39%	43%	48%	50%
Overall Category	III	III	III	III	III
Total Acreage of Assessed Wetlands within Monitoring Area	20-30	0.15	0.84	0.57	0.23
Total Functional Units (acreage x actual points)	-	0.58	3.61	3.25	1.27
Net Acreage Gain ("new" wetlands)	-	0.15	0.84	0.57	0.23
Net Functional Unit Gain (new acreage x actual points)	-	0.58	3.61	3.25	1.27
Total Functional Unit Gain Lame Deer-East Mitigation Site (2003)				8.13	•

FA done on general area in 1999, and includes the area cells 1 and 2 are currently located.
 Flood attenuation and short and long term storage were combined as one variable on the 1999 form.



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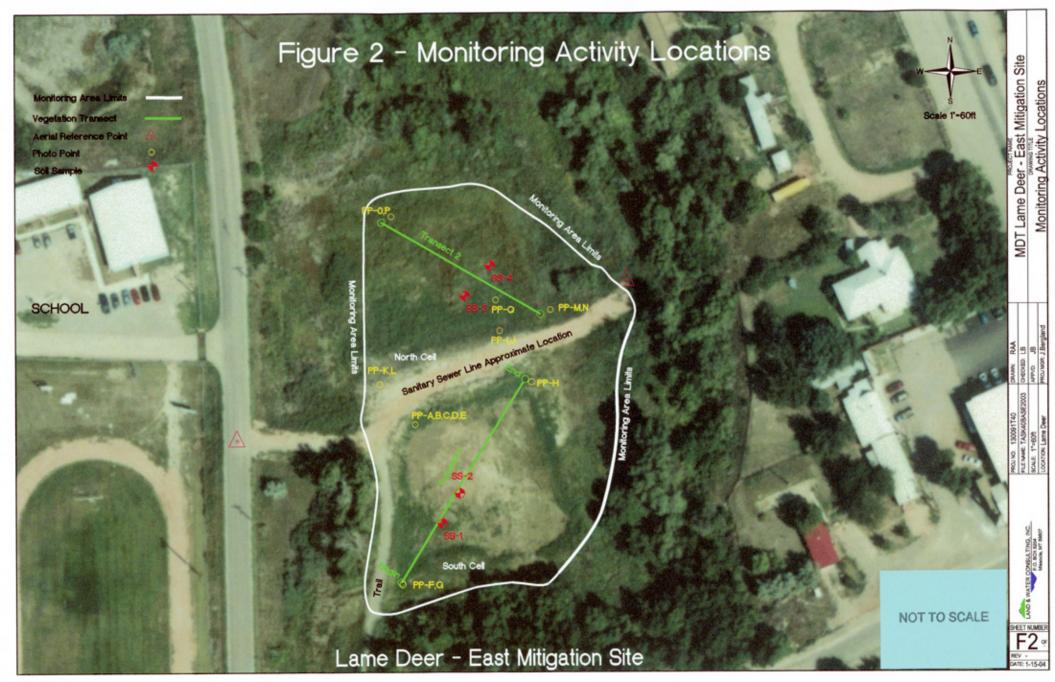


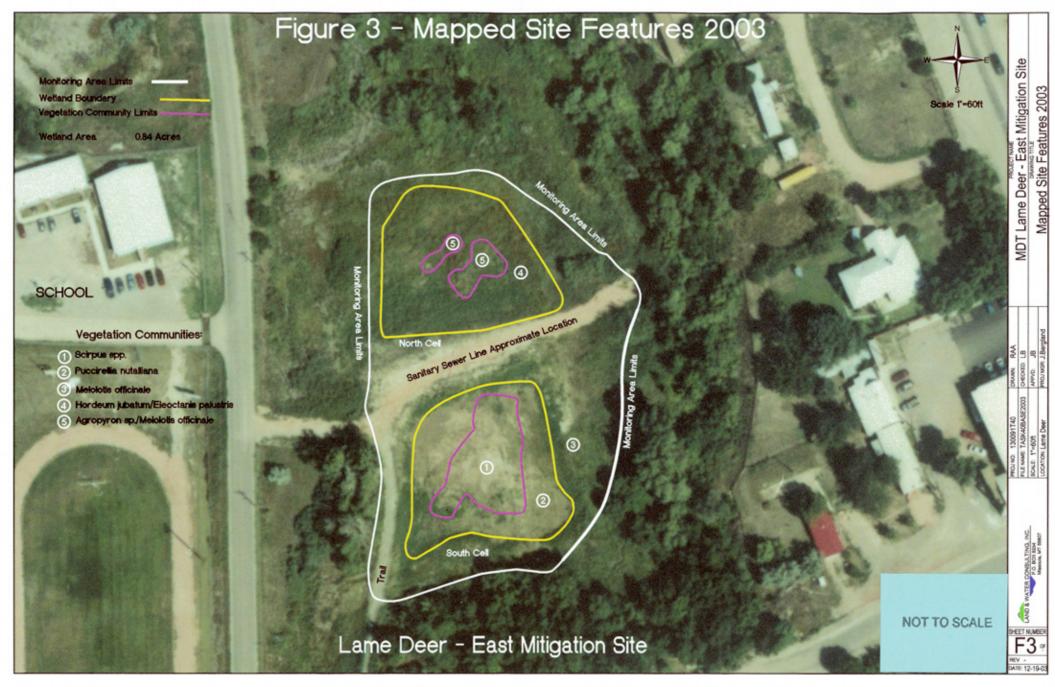
Appendix A

2003 SCHOOL MITIGATION SITE: FIGURES 2-3

MDT Wetland Mitigation Monitoring Lame Deer - East Mitigation Site Lame Deer - East, Montana







Appendix B

2003 SCHOOL MITIGATION SITE:

WETLAND MITIGATION SITE MONITORING FORM BIRD SURVEY FORMS WETLAND DELINEATION FORMS FUNCTIONAL ASSESSMENT FORMS

MDT Wetland Mitigation Monitoring Lame Deer - East Mitigation Site Lame Deer, Montana



LWC / MDT WETLAND MITIGATION SITE MONITORING FORM

				130091-040			
ocati	on: Lame D	Deer N	IDT District:	#4 Glendive	Milep	ost:	
gal	description: 7	$S_{2}S_{R_{41}}$	ESection_3	4 Time of D	Pay: 8AM-2PM		
eath	er Conditions	:clear		Person(s) con	ducting the asse	essment:	LB/LWC
				#:1 N			
e o	t evaluation ai	ea <u>~4_acres</u>	Land use surrou	inding wetland:_	<u>transportation c</u>	orridors; sch	<u>ool</u>
			НҮ	DROLOGY			
rfa	re Water So	urce: stormy	vater and ground	dwater			
				ns: south cell:6"	; north cell: 1/2	2" Range of	depths: ft
		 der inundation:_			,		
		_	water boundary	:*_ft			
•	_		•	urated w/in 12" o	of surface: Yes	XNo	
				sion, stained veg			ersed through
				in 2-3 areas in n			
		_	-				
rou	ndwater						
oni	toring wells:	Present	Absent X	<u> </u>			
COI		ter below grour	nd surface				
	Well #	Depth	Well #	Depth	Well #	Depth	
	ional Activiti						
				lary on air photo			
	_			site visit and loc	ok for evidence	of past surfac	e water
	*		tation staining e	*			
	_GPS survey g	groundwater mo	onitoring wells l	ocations if presen	nt		
)M	MENTS/PRO	OBLEMS:					



VEGETATION COMMUNITIES

Community No.:__1_ Community Title (main species):__Scirpus spp.__

COMMENTS/PROBLEMS:

Dominant Species	% Cover	Dominant Species	% Cover
SCIACU	75	CAREX spp.	<1
ELEPAL	5	SALEXI	5
HORJUB	<2%	MELOFF	<5
EQUHYM	<1	TYPLAT	5
PUCNUT (reconfirm 2004)	5	SCIPUN	<1
JUNBUF	<1		

Dominant Species	% Cover	Dominant Species	% Cover
RUNCRI	<5	LACSER	<5
HORJUB	40	MELOFF	40
SALEXI	<5	SCIPUN	<5
PUCNUT	<5	ELEPAL	<5
TYPLAT	<5	AGRsp.	<5

Community No.:_3___ Community Title (main species):__Salix exigua/Puccinellia nuttalliana

Dominant Species	% Cover	Dominant Species	% Cover
SALEXI	10	ELEPAL	10
PUCNUT (reconfirm 2004)	20	Openwater	50
HORJUB	<1	TYPLAT	<1
JUNBUF	<1	AGRsp.	<1
SCIACU/SCIPUN	10		

COMMENTS/PROBLEMS: __In 2002 this CT was mostly a mud flat <30% veg.; 2003 the rather discreet and separate vegetation communities have mixed and is somewhat homogeneous with HORJUB still colonizing more of the drier edges.



VEGETATION COMMUNITIES (continued)

Community No.:_4___ Community Title (main species): Upland (Undeveloped Wetland)______

Dominant Species	% Cover	Dominant Species	% Cover
(MUD)	(65%)	GLYELA	<5
SALEXI	10	TRIFOLIUM spp.	10
LACSER	<5		
СНЕНҮВ	<5		
JUNBUF	<5		
JUNDUF			
COMMENTS/PROBLEMS:			

COMMENTS/PROBLEMS:			
Community No.:5 Community	Title (main speci	es):_Agropyron sp./Melilotus officinale	<u>'</u>
Dominant Species	% Cover	Dominant Species	% Cover
AGRsp.	45	HORJUB	<5
POPTRE	<1	SALEXI (25 sprigged)	
SCIPUN	<5		
SALsp.	<1		
MELOFF	45		
COMMENTS/PROBLEMS:			
Community No.:_6 Community Ti	tle (main species):Melilotus officinale	
Dominant Species	% Cover	Dominant Species	% Cover
MELOFF	99		
LACSER	1		

Bommant Species	70 00101	Bomman Species	70 00 101
MELOFF	99		
LACSER	1		

COMMENTS/PROBLEMS:		

Additional Activities Checklist:

_X___Record and map vegetative communities on air photo



COMPREHENSIVE VEGETATION LIST

Species	Vegetation Community Number(s)	Species	Vegetation Community Number(s)
Agropyron spp.	2		1 (0)
Chenopodium hybridium	3		
Carex spp.	1		
Equisetum hyemale	1		
Glyceria elata	2		
Hordeum jubatum			
Juncus bufonius	1,2		
Lactuca serriola	2,3		
Puccinellia nuttalliana	2		
Rumex crispus	1		
Melilotus officinale	3		
Salix exigua (planted)	2		
Scirpus acutus	2		
Scirpus pungens	1,2		
Trifolium spp.	3		
Typha latifolia	2		

COMMENTS/PROBLEMS:		



PLANTED WOODY VEGETATION SURVIVAL

Species	Number	Number	Mortality Causes
	Originally	Observed	-
	Planted	2002	
Salix exigua (inside wetland)	?	250	Not counted in 2003*
Ribes spp. (outside wetland)	?	13	"
Prunus virginiana (outside wetland)	?	7	"
indeterminate shrub	-	8	"

MELOFF growth thick and tall in this area. Willows continue to thrive inside of south cell.



WILDLIFE

BIRDS

(Attach Bird Survey Field Forms)

esting structures being utilized? Yes	NO Do the nest	ing structures	псси тера	s: 1 cs	110
MA	MMALS AND HERI	PTILES			
Species	Number			lication of use	
T	Observed	Tracks	Scat	Burrows	Other
one					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
_NAMacroinvertebrate sampling (if re					
Additional Activities Checklist: _NAMacroinvertebrate sampling (if recommendate) COMMENTS/PROBLEMS:					



PHOTOGRAPHS

Using a camera with a 50 mm lenses and color film take photographs of the following permanent reference points listed in the checklist below. Record the direction of the photograph using a compass. (The first time at each site establish a permanent reference point by setting a ½ inch rebar or fencepost extending 2-3' above ground, survey the location with a resource grade GPS and mark the location on the air photo.) Checklist:

X_	One photo for each of the 4 cardinal directions surrounding wetland
X_	_ At least one photo showing upland use surrounding wetland – if more than one
	upland use exists, take additional photos
X_	At least one photo showing buffer surrounding wetland
X_	One photo from each end of vegetation transect showing transect

South Cell:

Location	Photograph Description	Compass Reading
A	south cell wetland view, border	170
В	south cell wetland view, center	130
С	south cell wetland view, border	76
D	across dike from south cell toward school	290
Е	across dike from south cell toward north cell	17
F	(retake 2003)	
G	south cell, beginning of transect	130
Н	south cell, end of transect	210
I	north cell view from central dike toward 212 stop sign	16
J	north cell view toward creek	314
K	north cell, vegetation along north side of dike	44
L	north cell, vegetation east of road and north of dike	18
M	north cell, south transect end	358
N	north cell, interior view south	290
О	north cell, north transect end	174
P	north cell, interior view north	100
Q	interior of north cell wetland	-

COMMENTS/PROBLEMS:

GPS SURVEYING

Using a resource grade GPS survey the items on the checklist below. Collect at least 3 location points with the GPS unit set at 5 second recording rate. Record file numbers fore site in designated GPS field notebook

Checklist:

X	_ Jurisdictional wetland boundary
X	4-6 landmarks recognizable on the air photo
_ X	Start and end points of vegetation transect(s)
X	Photo reference points
	_Groundwater monitoring well locations

COMMENTS/PROBLEMS:



WETLAND DELINEATION

(Attach Corps of Engineers delineation forms) At each site conduct the items on the checklist below: X Delineate wetlands according to the 1987 Army Corps manual. __X___ Delineate wetland-upland boundary on the air photo * Survey wetland-upland boundary with a resource grade GPS survey COMMENTS/PROBLEMS: Wetland areas drawn in 2003 in north and south cell. **FUNCTIONAL ASSESSMENT** (Complete and attach full MDT Montana Wetland Assessment Method field forms; also attach abbreviated field forms, if used) **COMMENTS/PROBLEMS:** One FA done for north and south cells combined. **MAINTENANCE** Were man-made nesting structures installed at this site? YES____ NO __X __ If yes, do they need to be repaired? YES_____ NO____ If yes, describe problems below and indicate if any actions were taken to remedy the problems. Were man-made structures build or installed to impound water or control water flow into or out of the wetland? YES (X) * NOIf yes, are the structures working properly and in good working order? YES <u>see below</u> NO_____ If no, describe the problems below. **COMMENTS/PROBLEMS:** ____Still unsure if the north cell will have sufficient hydrology for wetland development. In 2004 will dig a series of pits around entire cell to check hydric soil development progress.



MDT WETLAND MONITORING – VEGETATI	ON TRANSE	CT (SOUTH CELL)	
Site: Lame Deer-SOUTH CELL Date:	6/23/03	Examiner: LB/LWC Transect # 1	
Approx. transect length: 45 deg (SW to NE)	Compass Dire	ction from Start (G): 207 ft	
Vegetation type A: CT 6		Vegetation type B: CT 3	
Length of transect in this type: 12'	Feet	Length of transect in this type: 102'	feet
Species:	Cover:	Species:	Cover:
MELOFF	99	SALEXI	<1
LACSER	1	SCIACU	<1
		TRIFOLIUM spp.	20
		PUCNUT (confirm 2004)	20
		HORJUB	20
		ELEPAL	20
		LACSER	20
Total Vegetative Cover:	100%	Total Vegetative Cover:	100%
Vegetation type C: CT 1		Vegetation type D: CT 6	
Length of transect in this type: 84	feet	Length of transect in this type: 9	feet
Species:	Cover:	Species:	Cover:
open water	50	MELOFF	99
SCIACU	40	LACSER	1
HORJUB	10		-
Total Vegetative Cover:	50%	Total Vegetative Cover:	100%



MDT WETLAND MONITORING – VEGETATI	ON TRANS	ECT (NORTH CELL)	
Site: Lame Deer-SOUTH CELL Date:	6/23/03	Examiner: LB/LWC Transect # 2	
Approx. transect length: 306 deg	Compass Di	rection from Start (M,N): 162 ft	
Vegetation type A: CT 5		Vegetation type B: CT 4	
Length of transect in this type: 24'	Feet	Length of transect in this type: 36'	feet
Species:	Cover:	RUNCRI	<5
AGRsp.	45	HORJUB	40
POPTRE	<1	SALEXI	<5
SCIPUN	<5	PUCNUT	<5
SALsp.	<1	TYPLAT	<5
MELOFF	45	LACSER	<5
SALEXI individuals	sprigged	MELOFF	40
HORJUB	<5	SCIPUN	<5
		ELEPAL	<5
		AGRsp.	<5
Total Vegetative Cover:	100%	Total Vegetative Cover:	100%
Vegetation type C: CT 5		Vegetation type D: CT 4	
Length of transect in this type: 12'	feet	Length of transect in this type: 9'	feet
Species:	Cover:	Species:	Cover:
AGRsp.	45	RUNCRI	<5
POPTRE	<1	HORJUB	40
SCIPUN	<5	SALEXI	<5
SALsp.	<1	PUCNUT	<5
MELOFF	45	TYPLAT	<5
SALEXI individuals	sprigged	LACSER	<5
HORJUB	<5	MELOFF	40
		SCIPUN	<5
		ELEPAL	<5
		AGRsp.	<5
Total Vegetative Cover:	100%	Total Vegetative Cover:	



MDT WETLAND MONITORING – VEGETATI	ON TRANSI	ECT (NORTH CELL)	
Site: Lame Deer-SOUTH CELL Date:	6/23/03	Examiner: LB/LWC Transect # 2	
Approx. transect length: 306 deg			
Vegetation type A: CT 5		Vegetation type B:	
Length of transect in this type: 81'	Feet	Length of transect in this type:	feet
Species:	Cover:		
AGRsp.	45		
POPTRE	<1		
SCIPUN	<5		
SALsp.	<1		
MELOFF	45		
SALEXI individuals	sprigged		
HORJUB	<5		
The Late of the Control of the Contr	1000/		
Total Vegetative Cover:	100%	Total Vegetative Cover:	
Vegetation type C:		Vegetation type D:	
Length of transect in this type:	feet	Length of transect in this type:	feet
Species:	Cover:	Species:	Cover:
Total Vegetative Cover:			



$MDT\ WETLAND\ MONITORING-VEGETATION\ TRANSECT\ (back\ of\ form)$

Cover Estimate	Indicator Class:	Source:
+ = <1% 3 = 11-20%	+ = Obligate	P = Planted
1 = 1-5% $4 = 21-50%$	- = Facultative/Wet	V = Volunteer
2 = 6-10% $5 = >50%$	0 = Facultative	
Percent of perimeter 5 (>50%) 9	% developing wetland vegetation –	excluding dam/berm structures.
his location with a standard metal fend	cepost. Extend the imaginary trans-	The transect should begin in the upland area. Permanently mark ect line towards the center of the wetland, ending at the 3 food depth zed. Mark this location with another metal fencepost.
	elt" along the transect length. At a r	ninimum, establish a transect at the windward and leeward sides of
the wetland. Remember that the purpo	ose of this sampling is to monitor, n	ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
		ot inventory, representative portions of the wetland site.
The north cell has 2 pockets of wetland		ot inventory, representative portions of the wetland site.



BIRD SURVEY – FIELD DATA SHEET

Page_1___of__1__ Date: 6/23/03

SITE: Lame Deer Survey Time: 11AM

Bird Species	#	Behavior	Habitat	Bird Species	#	Behavior	Habitat
Common Yellowthroat	1	BD	UPL				
Song Sparrow	1	BD	UPL				
American Robin	1	L	MA				
Common Grackle	many	BD	UPL				
Yellow Warbler	1	BD	UPL				

Notes: Very limited habitat for avian species at this stage of wetland development. As the shrubs and aspen mature the species diversity will increase.
made disposal for species di resole, mil mercusor

Behavior: BP – one of a breeding pair; BD – breeding display; F – foraging; FO – flyover; L – loafing; N – nesting

 $\label{eq:habitat: AB-aquatic bed; FO-forested; I-island; MA-marsh; MF-mud flat; OW-open water; SS-scrub/shrub; UP-upland buffer; WM-wet meadow, US-unconsolidated shoreline$



DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

	Project/Site: Lame Deer								Date: 6/23/03 (South Cell)			
	olicant/Owner: MDT							County:	Rose	ebud		
Inv	estigator: <u>LB/LWC</u>							State:	MT			
Do	Normal Circumstances exis	t on the site	:	X	Yes		No	Communit	y ID:	emerge	nt	
ls t	he site significantly disturbed	d (Atypical S	Situation)?		Yes	X	No	Transect I	D:	1		
Is t	s the area a potential Problem Area?: Yes X No							Plot ID:		SP-1		
(If needed, explain on revers	e.)										
			V	EGE/	TATI							
_	Dominant Plant Species	Stratum	Indicator			Domii	nant P	lant Species		Stratum	Indicator	
1	GLYELA (reconfirm 2004) (PUCNUT?	Н	OBL		9							
2	ELEPAL	Н	OBL		10							
3	TRIFOLIUM sp.	Н	-		11							
4	SCIACU	Н	OBL		12							
5	HORJUB	Н	FACW		13							
6	LACSER	Н	FACU		14							
7	JUNBUF	Н	OBL		15							
8	AGROPYRsp.	Н	FACU-UF	PL	16							
Per	cent of Dominant Species th	nat are OBL	, FACW, or	FAC	(exclud	ding F	AC-).	5/8				
Hvo	drophytic plant community h	as continue	d to expand	l and i	ncreas	se cove	er.					
				IYDR								
	Recorded Data (De		,		vvetia	•		gy Indicator	S:			
		n, Lake, or	•	:		Prin	-	ndicators:				
	Other	Photograph	1S			_		Inundated Saturated in	Linner	12 Inches		
	X No Recorded Data	Available				_		Water Marks		12 11101163	•	
						_		Drift Lines				
Fie	ld Observations:					_		Sediment De	eposits			
						_		Drainage Pa				
	Depth of Surface Water:	-	* (in.)			Sec		ry Indicators	•		•	
	B 41 - E 144 - 1 B	•	- "			_					pper 12 Inches	
	Depth to Free Water in P	it:	0 (in.)			_		Water-Stain				
	Depth to Saturated Soil:	,	@ (in.)			_		Local Soil Su FAC-Neutral		Data		
	Deptir to Saturated Soil.		- ,				·	I AC-INCULIA	1631			
		Sui	face_			_	(Other (Expla	in in R	emarks)		
Rei	marks:											
	Vater is ponded ~1' fron	n soil pit.	Recent st	torm	water	has	entei	red south	cell.			
	,	•										



SOILS

Map Uni	t Name	5	Drainage Class:	well; very	poor (res	p.)				
(Series a	and Phase):				Field Observation					
	ny (Subgrou		loborolls; frigid C	umulic Haploborolls	Confirm Mapped Type?		Yes	No		
Profile I	Description	n:								
Depth inches	Horizon	Matrix Color (Munsell Moist)	Mottle Cold (Munsell M		tle indance/Contrast	Texture, Structure	Concretion	ns,		
0-8	В	2.5Y 4/2	(7.00			velly silty s	sand		
8-18	С	2.5Y 5/3					silty sand			
		w/ Gley 2 5/5PB streaks								
				•		•				
Wetland	Hydric Soil Indicators: Histosol									
I le calma m la c	-ti- \/tti-			DETERMINA	ATION					
Wetland	rtic Vegetatio Hydrology Pr oils Present?		No	Is this Sampling	Point Within a Wetlan	d? X	Yes	No No		
Remark	s:									
Wetlan	d improvi	ng since 2002.								

Approved by HQUSACE 2/92



DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Dr	oject/Site: Lame Deer						Date:	6/22/	03 (South	, Call)
									,	1 Cell)
1 .	·						County:	Rose	bua	
IIII	vestigator: <u>LB/LWC</u>						State:	MT		
Do	Normal Circumstances exist on	the site:	X	Yes		No	Communi	•	UPL	
Is	the site significantly disturbed (A	typical Situatio	n)?	Yes	X	No	Transect	ID:	1	
Is	the area a potential Problem Are	ea?:		Yes	X	No	Plot ID:		SP-2	
	(If needed, explain on reverse.)		•							
			VEGE	TATI						
		Stratum Indica			Domin	ant P	lant Species		Stratum	Indicator
1	TRIFOLsp.		ACU)	9						
2	LACSER	H FA	ACU	10						
3				11						
4				12						
5				13						
6				14						
7				15						
8				16						
Pe	ercent of Dominant Species that	are OBL_FACV	V or FAC	(exclu	dina FA	(C-)	2/2			
	·		., 0	(0)(0)	ug . 7					
sa	mple point is on bank adjacent to	o transect end.								
<u> </u>			HYDR	OLO	GY					
	Recorded Data (Descri	be in Remarks)	:	Wetla	and Hy	drolo	gy Indicator	s:		
	Stream, L	ake, or Tide G	auge		Prima	ary Ir	ndicators:			
	Aerial Pho	otographs				I	nundated			
	Other						Saturated ir		r 12 Inches	5
	X No Recorded Data Ava	ilable					Nater Mark	S		
							Orift Lines			
Fie	eld Observations:						Sediment D	•		
	Danilla of Ossifa as Matan		(' -)				Drainage Pa			
	Depth of Surface Water:		(in.)		Seco		ry Indicators	•	•	•
	Donath to Free Motor in Dit.		/:m \							pper 12 Inches
	Depth to Free Water in Pit:		(in.)				Water-Stain			
	Depth to Saturated Soil:	@ aumfa aa	(in.)				∟ocal Soil S FAC-Neutra		Data	
	Deptir to Saturated Soil.	@surface	(111.)		_		Other (Expl		(omorko)	
					_		Julei (Expi	alli III r	terriarks)	
Re	emarks:									
Б-	dance of weetland bridgelease.									
E	vidence of wetland hydrology	present.								
II .										



SOILS

Map Unit	t Name	S	traw-Canburn		Drainage Class: well; very poor (resp.)				
(Series a	ind Phase):				Field Observations				
Taxonom	ny (Subgrou	mixed Cumulic Hapl Haploborolls (resp.)	loborolls; frigid Cur	mulic	Confirm Mapped Typ	oe? X Yes	No		
Profile D	Description	:							
Depth inches	Horizon	Matrix Color (Munsell Moist)	Mottle Cold (Munsell M		Mottle Abundance/Contrast	Texture, Conc Structure, etc.	retions,		
0-18	В	2.5Y 3/3;3/2	2.5Y5/6	5 (0-6")	coarse, 60%	gravelly	silt sand		
			•						
	H S A	istosol istic Epipedon ulfidic Odor quic Moisture Regime educing Conditions leyed or Low-Chroma			Concretions High Organic Content in su Organic Streaking in Sand Listed on Local Hydric Soil Listed on National Hydric S Other (Explain in Remarks	y Soils ls List Soils List	Sandy Soils		
mottling i	n low-chrom	a soil							
			WETLAND) DETER	MINATION				
Wetland F	tic Vegetation Hydrology Pro ils Present?		s No	Is this Sar	npling Point Within a Wetland	d? Ye:	s X No		
Remark	s:								
Wetland	may be exp	panding to this outer e	edge.						
	, ,	J	3						
							10110405 0/00		

Approved by HQUSACE 2/92



DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Date:

6/23/03 (North Cell)

Project/Site:

Lame Deer

Applicant/Owner: MDT					County:	Rosebud	
Investigator: LB/LWC					State:	MT	
Do Normal Circumstances et ls the site significantly distur		X ation)?	Yes Yes	No	Community Transect ID		ent
Is the area a potential Problem	em Area?:	, <u> </u>	_ Yes	X No	Plot ID:	SP-3	
(If needed, explain on rev							
·	,	VEG	ETATI	ON			
Dominant Plant Species	Stratum Inc	dicator		Dominant P	lant Species	Stratum	Indicator
1 HORJUB	Н	FACW	9				
2 ELEPAL	Н	OBL	10				
3 TYPLAT	Н	OBL	11				
4 SALEXI	S	FACW+	12				
5 GLYELA	Н	OBL	13				
6 PUCNUT	Н	OBL	14				
7 SCIPUN	Н	OBL	15				
8 LACSER	Н	FACU	16				
Hydrophytic plant communit	y is present thoug		er spp.		YZ, AGRsp.,	MELOFF, clove	er, RUMCRI
Recorded Data (Describe in Rema				gy Indicators	:	
	eam, Lake, or Tide	-		Primary I	ndicators:		
Ae	rial Photographs	•		- 1	Inundated		
Oth	-					Upper 12 Inches	3
X No Recorded Da	ita Available				Water Marks		
					Drift Lines		
Field Observations:					Sediment De Drainage Bat	posits terns in Wetland	40
Depth of Surface Water	er: _	(in.)				(2 or more requ	
					-	ot Channels in U	
Depth to Free Water in	n Pit: 0	(in.)			Water-Staine		
		<u> </u>			Local Soil Su		
Depth to Saturated So	oil: @	(in.)		!	FAC-Neutral	Test	
	surfac	<u>e</u>					
				(Other (Explai	n in Remarks)	
Remarks:							
groundwater close to surfa	ace in small area	s of north c	ell.				



SOILS						
Map Unit	Name	S	traw-Canbur	'n	Drainage Class:	well; very poor (resp.)
(Series a	ınd Phase):				Field Observation	IS
Taxonom	าy (Subgrou	up): mixed Cumulic Haple	oborolls; frigid C	umulic Haploborolls	Confirm Mapped	X Yes No
					_ Type?	
Profile [Description):				
Depth		Matrix Color	Mottle Cold			Texture, Concretions,
inches	Horizon	(Munsell Moist)	(Munsell Moist) Ab		ndance/Contrast	Structure, etc.
0-3	В	2.5Y 4/3				gravelly w/ red rock chips
3-18	С	Gley 2 4/5PB streaks	2.5Y	7 5/6	50%, coarse	red rock chips, organic
J 10		Gicy 2 4/31 B strouts	2.01	3/0	3070, Course	streaking w/ gley streaks
		<u> </u>	 			
			<u> </u>	•		
Hydric S	Soil Indicat	ors:				
		listosol		Concre		
		listic Epipedon				urface Layer in Sandy Soils
		Sulfidic Odor Aquic Moisture Regime			c Streaking in Sand on Local Hydric Soi	
		Reducing Conditions			on National Hydric S	
		Gleyed or Low-Chroma (Colors		(Explain in Remarks	
					· •	,
<u>ll</u>						
п		\	WETLAND	DETERMINA	TION	
Hydrophy	tic Vegetatio	on Present? X Yes	No			
	Hydrology Pr		No			
Hydric So	ils Present?	X Yes	No	Is this Sampling I	Point Within a Wetland	d? X Yes No
Remark	 S:					
Wetland	l areas con	fined to very small sq	uare footag	ge. Yellow swee	et clover choking a	all areas not classified as
WL.						

Approved by HQUSACE 2/92



DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Pro	oject/Site: Lame Deer						Date:	6/23/03 (Nort	h Cell)
	olicant/Owner: MDT						County:	Rosebud	ii Ceii)
	estigator: LB/LWC						State:	MT	
1110	LD/LWC						otate.	IVI I	_
Do	Normal Circumstances exis	t on the site:		X	Yes	No	Community	ID: emerge	ent
ls t	he site significantly disturbed	d (Atypical S	ituation)?		Yes	X No	Transect ID		
ls t	he area a potential Problem	Area?:		-	Yes	X No	Plot ID:	SP-4	_
(If needed, explain on revers	e.)		-				·	
			V	EGE	TAT	ON			
	Dominant Plant Species	Stratum	Indicator			Dominant P	lant Species	Stratum	Indicator
1	HORJUB	Н	FACW		9	AGRsp.		Н	(FACU)
2	CIRARV	Н	FACU		10				
3	MELOFF	Н	FACU-		11				
4	RUMCRI	S	FACW		12				
5	POPTRE	Н	FAC		13				
6	PUCNUT	Н	OBL		14				
7	SALsp.	Н	FACW-OB	L	15				
8	LACSER	Н	FACU		16				
	rcent of Dominant Species the may convert to WL if hydronic may be seen to the may be seen to the convert to th		cient durino	g the i	next 2	years. LAC	4/9 SER and ME	LOFF are domi	nant.
	Decembed Date (De			YUK	OLO		IP (
	Recorded Data (Des		•		vveti	•	gy Indicators		
		n, Lake, or T	_			•	ndicators:		
	Aerial Other	Photographs	5				Inundated	Innar 10 Inahas	
	X No Recorded Data	Available					Saturated in t Water Marks	Jpper 12 Inches	•
	No recorded Bala /	wallable					Drift Lines		
Fie	ld Observations:						Sediment De	nosits	
1 10	ia Observations.							terns in Wetland	ds
	Depth of Surface Water:	_	(in.)					2 or more requi	
						(Oxidized Roo	t Channels in U	pper 12 Inches
	Depth to Free Water in Pi	it: 6	" (in.)				Water-Staine	d Leaves	
							Local Soil Su		
	Depth to Saturated Soil:	@ su:	rface (in.)				FAC-Neutral		
							Otner (Explai	n in Remarks)	
Re	marks:								
gro	oundwater evident in some	upland veg	g areas suc	h as	this.				



SOILS

Map Unit	t Name		Straw-Canburn		Drainage Class:	well; very po	or (resp.)
(Series a	ınd Phase):				Field Observation	S	
-	ny (Subgrou		Iaploborolls; frigid Cun	nulic Haploborolls	Confirm Mapped Type?	X Ye	es No
Profile Γ	Description	•					
Depth inches	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Mo		tle ndance/Contrast	Texture, Con Structure, et	tc.
0-6	В	2.5Y 3/3					ilt sand w/ org. reaking
6-18	С	2.5Y 4/2, 4/1	2.5Y 5	7/6	50%, coarse	gravel	lly silt sand
	Soil Indicate	L					
hydric soi	H S A R	istosol istic Epipedon ulfidic Odor quic Moisture Regim educing Conditions leyed or Low-Chrom		Organi Listed	etions Organic Content in such It Streaking in Sand It Sand It Sand It Sand It Stream It Stream It Sand It Stream It Stream It Stream It Sand It Stream It Str	y Soils ls List Soils List	n Sandy Soils
II.			WETLAND	DETERMINA	TION		
Wetland F	tic Vegetatio Hydrology Pro ils Present?	esent? X Y	es X No es No es No	ls this Sampling I	Point Within a Wetland	d? Y	res <u>X</u> No
Remark	s:		•				
	l area may elopment.	increase in size giv	ven some indica	tion of hydrol	ogy availability. V	Weed infestat	tion may deter

Approved by HQUSACE 2/92



101	IDI MONI	IANA WEILANI) ASSES	SMENT FORM	M (revised May 25	, 199	9)	
1. Project Name: Lame Deer-East	<u>st</u>	2.	Project #:	<u>-130091040</u>	Control #:			
3. Evaluation Date: <u>6/23/2003</u>	4.	Evaluator(s): <u>LB/LW</u>	<u>C</u>	5. W	Vetland / Site #(s): Sch	ool		
6. Wetland Location(s) i. T: 2	<u>S</u> R : 41	<u>E</u> S: <u>34</u>		T: <u>N</u> F	R:E S:			
ii. Approx. Stationing / Milep	osts:							
iii. Watershed: <u>10100003</u>		GPS Reference	No. (if appl	ies):				
Other Location Informatio	n:							
7. A. Evaluating Agency LWC B. Purpose of Evaluation: ☐ Wetlands potentially a ☐ Mitigation wetlands; ☐ Mitigation wetlands;	pre-construction	T project 9. Asses	and Size (to		(visually estimated) 2 (measured, e.g. GPS) 4-5 (visually est (measure			
Other								
10. CLASSIFICATION OF WE	TLAND AND	AQUATIC HABITA	TS IN AA					
HGM CLASS ¹	SYSTEM	² SUBSYSTEM	2	CLASS ²	WATER REGIN	AE ²	MODIFIER ²	% OF AA
Depression	Palustrine	None	Em	nergent Wetland	Saturated		Excavated	80
					Intermittently Floo	oded		
$^{}$ = Smith et al. 1995. 2 = Coward:								
12. GENERAL CONDITION O i. Regarding Disturbance:		elow to select appropria	ate response	·.)				
	Y 1	1: 1 : 4			djacent (within 500 Feet)		12 4 1 1 21 1	, ,
	state; i	nanaged in predominantly r s not grazed, hayed, logged	, or	or hayed or selective	, but moderately grazed ely logged or has been	subjec	cultivated or heavily grazed ct to substantial fill placemen	nt, grading
Conditions Within AA	otherw or build	ise converted; does not con lings.	itain roads	or buildings.	aring; contains few roads		ng, or hydrological alteration or building density.	ı; hıgh
AA occurs and is managed in predomin a natural state; is not grazed, hayed, log or otherwise converted; does not contain roads or occupied buildings.	ged, n							
AA not cultivated, but moderately graze hayed or selectively logged or has been subject to relatively minor clearing, or f placement, or hydrological alteration; contains few roads or buildings.				moderat	te disturbance			
AA cultivated or heavily grazed or logg subject to relatively substantial fill placement, grading, clearing, or hydrolc alteration; high road or building density	ogical							
Comments: (types of dist ii. Prominent weedy, alien, in north cell					-	periph	nery of cells and to a large	e extent
iii. Briefly describe AA and	d surrounding	land use / habitat: scl	nool across	street and center of	town within sight of we	tlands.		
13. STRUCTURAL DIVERSIT				1.01	117			
Number of 'Cowardin' Vegetated Classes Present in AA		getated Classes or one class is forested	2 Vegetat 1 if forest	ed Classes or ted	= 1 Vegetated Class			
Select Rating				Moderate				



Comments: ___

14A. F	AA is Documented								NED C)R E	NDAN	IGER	ED P	LAN	TS AN	ND Al	NIMA	LS					
	Primary or Critical h Secondary habitat (li Incidental habitat (li No usable habitat	st species)		□ D □ D □ D □ D	□ s □ s																		
ii	. Rating (Based on th	e strongest ha	bitat cl	nosen	in 14A	(i) a	bove,	find th	ne corr	espoi	nding r	ating	of Hi	gh (H), Mod	lerate	(M), c	or Lov	w (L) f	or thi	s func	ion.	
	est Habitat Level	doc/primary	_	ıs/prin			c/seco			_	ndary		c/incid		_	/incid			none		1		
Funct	ional Point and Rating				•			•			•								0 (L)	1		
	If documented, list	the source (e.	g., obs	servati	ons, re	cord	s, etc.)):													_		
14B. H		cies listed in 1 (D) or Suspect	4A(i). ed (S)	to cor	ntain (c				BY TI	НЕ М	IONT	ANA	NAT	URA	L HEI	RITA	GE P	ROG	RAM.				
	Primary or Critical h Secondary habitat (li Incidental habitat (li No usable habitat	st species)		□ D □ D □ D □ D	□ s □ s																		
iii	8 \			nosen	in 14B	(i) al	bove, i	find th	e corr	espor	nding r							or Lov	v (L) f	or this	funct	ion.	
	est Habitat Level:	doc/primary	su	ıs/prin	nary	do	c/seco	ndary	sus		ndary	doc	c/incio	lental	sus	/incid	lental		none				
Funct	ional Point and Rating If documented, list		<u> </u>																0 (L)			
i. Sub	derate (based on any of observations of scatter common occurrence of adequate adjacent uple interviews with local will will be with their percent composition of the	f the following ant wildlife #s a such as scat, limiting habit biologists with the following) red wildlife grand food source biologists with ures (Working sity is from #1 on in the AA (neral; A= abse	g) s or high tracks, at feat a know oups of such a know g from 3. For see #1	th special nest sures in ledge r individual scale ledge top top top class	cies divistructurot avairof the viduals tracks of the botton cover	or respectively.	ty (durgame to e in the elative st struc- elect ap e consi	ring ar rails, e surro	ny perietc. ounding speci , game iate A. evenl	iod) g area ies du e trails A attr	ring pes, etc.	Lo L	eriods termir etated	few little spar interinterinterinterinterinterinterinter	e to no se adja views excep es mu = seas	wildling wildling with I with I with I with I with I with I will will be with I will will will will be will will will will will will will wil	fe obsife sigupland local between (E), h	ervati n I food biolog nigh (I	source fists wi	es ith know derate h othe	e (M), er in te		A
	Structural Diversity (fr	om #13)					High							⊠Mo	derate	•					Low		
	Class Cover Distribution	on		□E	Even			□Uı	neven			□E	Even			⊠Uı	neven			□E	Even		
	(all vegetated classes) Duration of Surface W	ater in ?								1			l					1					
	10% of AA		P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	
	Low disturbance at AA																						
	Moderate disturbance (see #12)	at AA														M							
	High disturbance at A	A (see #12)							-	-								-					
iii	. Rating (Using 14C(i) a for this function.)	and 14C(ii) abo		d the r						unctio			ıd ratiı	ng of	except	ional		igh (F	H), mo	derate			L)
	Evidence of Wildlife	e Use				Wile				tures	Rating			(ii)		٦.							
	from 14C(i)		E ₂	ception	onal	+		Hig	ţh	+	M.	Mode	rate	_	L	Lov	W	_					
	Substantial Moderate					-				+		 .5 (M)	`										
	iviouerate					L				L		. <i>J</i> (1 V 1)											

Comments: The surrounding upland and stream corridor is prime habitat for deer and migratory birds.

Low



barrier, etc.]. If fish use occurs i		ed from a reso	ource ma	nagement p	erspective	(e.g. fish	use within				ality
[14D(i)] below should be marke	. 11							<i>a</i>			
i. Habitat Quality (Pick the appropriation of Surface Water in AA		matrix to pic		ceptional (E nanent/Per			te (M), or lo asonal / Inte			nporary / Epl	20220201
Cover - % of waterbody in AA c submerged logs, large rocks & b floating-leaved vegetation)	containing cover objects (>25%	10-25%	<10%	>25%	10-25%	<10%	>25%	10-25%	<10%
Shading - >75% of streambank of		ns									
riparian or wetland scrub-shrub Shading – 50 to 75% of streamb	ank or shoreline of AA co	ontains									
riparian or wetland scrub-shrub Shading - < 50% of streambank	or shoreline of AA contai	ins									
riparian or wetland scrub-shrub	or forested communities.										
ii. Modified Habitat Quality: included on the 'MDEQ list of v \Boxed Y \Boxed N If yes, re iii. Rating (Use the conclusions from the conclusions of the conclusions of the conclusions from the conclusions from the conclusions from the conclusions of the conclusions from the conclusions from the conclusions of the con	vaterbodies in need of TM duce the rating from 14D	IDL developm (i) by one lev	nent' wit el and ch	th 'Probable the mo	e Impaired dified hab	Uses' lis	ted as cold or y rating:	or warm wat	er fishery o H	r aquatic life	support?
Types of Fish Known or							om 14D(ii)	· // U \			
Suspected Within AA	☐ Exceptional			High			☐ Moder	ate		Low	
Native game fish				_			_				
Introduced game fish				-			-				
Non-game fish											
No fish Comments:											
If wetlands in AA do not f i. Rating (Working from top to						nt and rat	ing of high	(H), modera	te (M), or l	ow (L) for th	is
function.)	1 1 0 1									N 10	
Estimated wetland area in AA su			750	□ ≥ 10 a		750	<10, >2		750	⊠ ≤2 acre	_
Estimated wetland area in AA su % of flooded wetland classified	as forested, scrub/shrub,		75%	25-759	6 <25%		25-75	% <25%	75%	25-75%	<25%
Estimated wetland area in AA su	as forested, scrub/shrub, octed outlet		75% 			5 75%			75%		_
Estimated wetland area in AA su % of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Y N Comm 14F. SHORT AND LONG TE Applies to wetlands that fl If no wetlands in the AA a	as forested, scrub/shrub, octed outlet t or other features which ments: ERM SURFACE WATE ood or pond from overbaure subject to flooding or p	may be signi R STORAGI nk or in-chann conding, chec	 eficantly E [nel flow, k NA abo	25-759	6 <25% by floods l	ocated w	25-75' ithin 0.5 mi	% <25%	ream of the	25-75%	<25% .2 (L)
Estimated wetland area in AA so which of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Service North North Community Short Applies to wetlands that floor	as forested, scrub/shrub, octed outlet t or other features which ments: CRM SURFACE WATE ood or pond from overbar are subject to flooding or pobottom, use the matrix benet/perennial; S/I = seaso	may be signi R STORAGI nk or in-chann conding, chec elow to arrive onal/intermitte	 eficantly E [nel flow, k NA above at the fu	damaged NA (pro precipitation)	6 <25% by floods l ceed to 14ton, upland bint and rate y/ephemera	ocated w G) surface fl ting of highl.	25-75° ithin 0.5 mi	% <25% ——————————————————————————————————	ream of the	25-75%	<25%
Estimated wetland area in AA so of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Y N Commod Commo	as forested, scrub/shrub, octed outlet t or other features which ments: CRM SURFACE WATE ood or pond from overbar are subject to flooding or post bottom, use the matrix benet/perennial; S/I = seasof water contained in wetla lic flooding or ponding.	may be signi R STORAGI nk or in-chann conding, chec elow to arrive onal/intermitte	ificantly E [nel flow, k NA above at the fuent; T/E =	damaged NA (pro precipitation ove. unctional pretemporar >5 acres	by floods l ceed to 144 on, upland oint and rate y/ephemera	G) surface fling of high.	25-75° ithin 0.5 mi ow, or grou gh (H), mod	% <25% ——————————————————————————————————	ream of the	25-75% 2 AA? (check	<25% .2 (L) x)
Estimated wetland area in AA st % of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Y N Comm 14F. SHORT AND LONG TE Applies to wetlands that fl If no wetlands in the AA a i. Rating (Working from top to Abbreviations: P/P = perman Estimated maximum acre feet of	as forested, scrub/shrub, octed outlet t or other features which ments: CRM SURFACE WATE ood or pond from overbaure subject to flooding or potential; S/I = seasof water contained in wetla lic flooding or ponding. Ilands within the AA	may be signi R STORAGI nk or in-chann conding, chec elow to arrive onal/intermitte	 eficantly E [nel flow, k NA above at the fu	damaged NA (pro precipitation)	6 <25% by floods l ceed to 14ton, upland bint and rate y/ephemera	ocated w G) surface fl ting of highl.	25-75° ithin 0.5 mi ow, or grou gh (H), mod	% <25%	ream of the	25-75%	<25%
Estimated wetland area in AA st % of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Y N Comm 14F. SHORT AND LONG TE Applies to wetlands that fl If no wetlands in the AA a i. Rating (Working from top to Abbreviations: P/P = perman Estimated maximum acre feet of the AA that are subject to period Duration of surface water at wet Wetlands in AA flood or pond	as forested, scrub/shrub, octed outlet t or other features which ments: CRM SURFACE WATE ood or pond from overbaure subject to flooding or ponding. Is seased f water contained in wetla lic flooding or ponding. Is and swithin the AA 5 out of 10 years	may be signi R STORAGI nk or in-chann conding, chec elow to arrive onal/intermitte	E [nel flow, k NA abote at the fuent; T/E =	damaged NA (pro precipitation ove. anctional pre temporar >5 acre S/I	6 <25% by floods l ceed to 144 ceed to 144 con, upland coint and rate y/ephemera e feet T/E	G) surface fl ing of high	25-75° ithin 0.5 mi ow, or grou gh (H), mod	% <25%	eam of the	25-75%	<25% .2 (L) x) on.)
Estimated wetland area in AA st % of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Y N Commod Com	as forested, scrub/shrub, octed outlet t or other features which ments: CRM SURFACE WATE ood or pond from overbaure subject to flooding or ponding. Is seased f water contained in wetla lic flooding or ponding. Is seased for the subject of 10 years 5 out of 10 years T/TOXICANT RETENT potential to receive excess are subject to such input, or	may be signi R STORAGI Rk STORAGI Rk or in-chann bonding, chec elow to arrive bonal/intermitte ands within FION AND F sediments, no check NA abo	E [nel flow, k NA above at the fuent; T/E = P/P	damaged NA (pro precipitation ove. anctional pre temporar >5 acre S/I AL or toxicants	by floods I ceed to 144 ceed to 144 ceed to 144 ceed to 147 ceed	G) surface fling of highling of highling of highling of highling properties and the surface of t	ow, or grounds (H), models (S), >1 as (S)	Control Cont	r low (L) for P/P	25-75% 2 AA? (check or this function ≤1 acre for S/I out.	<25% .2 (L) x) on.) T/E
Estimated wetland area in AA st % of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Y N Commod North North North Commod North	as forested, scrub/shrub, octed outlet t or other features which ments: ERM SURFACE WATE cood or pond from overbal are subject to flooding or post obstom, use the matrix benent/perennial; S/I = seasof water contained in wetlatic flooding or ponding. Lands within the AA 5 out of 10 years T/TOXICANT RETENT cotential to receive excess are subject to such input, of bottom, use the matrix benefits to such input, of bottom, use the matrix benefits and the subject to such input, of bottom, use the matrix benefits and the subject to such input, of bottom, use the matrix benefits and the subject to such input, or subject to subject to such input, or subject to subject to such input, or subject to subject t	may be signi R STORAGI nk or in-chann conding, chec elow to arrive anal/intermitte ands within FION AND R sediments, me check NA abo	E [nel flow, k NA above at the funt; T/E = P/P	damaged NA (proprecipitation ove. Inctional permitted by the state of the state o	by floods l ceed to 14t ceed to 14t on, upland oint and rate y/ephemera e feet T/E NA (pros through in	ocated w G) surface fl ing of high l. P/P cceed to 1 fnflux of s	25-750 ithin 0.5 mi ow, or grounds (H), models (S, >1 as S/I	des downstr les downstr ndwater flow erate (M), o cre feet T/E) Dund water o crate (M), or	r low (L) for P/P	25-75% 2 AA? (check or this function ≤1 acre for S/I out.	<25% .2 (L) x) on.) T/E
Estimated wetland area in AA st % of flooded wetland classified AA contains no outlet or restrict AA contains unrestricted outle ii. Are residences, businesses, Y N Commod Com	as forested, scrub/shrub, octed outlet t or other features which ments: CRM SURFACE WATE cood or pond from overbar re subject to flooding or pont/perennial; S/I = seasof water contained in wetla lice flooding or ponding. Italiands within the AA 5 out of 10 years T/TOXICANT RETENT contential to receive excess are subject to such input, of the matrix between the matrix	may be signi R STORAGI nk or in-channonding, chec elow to arrive onal/intermitte inds within FION AND F sediments, nicheck NA abo elow to arrive surrounding lar els of sediments are not substant sources of nutri	E [nel flow, k NA above at the fuent; T/E = P/P	25-759	by floods l ceed to 14ton, upland oint and rate y/ephemera e feet T/E NA (pros through in the strong in the stro	G) surface fl ing of hig al. P/P coceed to 1 influx of s water devel devel tut tut tut	ow, or grounds of the control of the	des downstr les downstr ndwater flow erate (M), or cre feet T/E) Dund water of erate (M), or EQ list of wat robable cause ceives or surro of sediments, substantially	r low (L) for erbodies in n ser elated to ounding land nutrients, or impaired. M	25-75% 2 AA? (check or this function ≤1 acre for S/I out.	<25% .2 (L) .

NA (proceed to 14E)

If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, then check the NA box above.

14D. GENERAL FISH/AQUATIC HABITAT RATING

% cover of wetland vegetation in AA

AA contains no or restricted outlet

AA contains unrestricted outlet Comments:

Evidence of flooding or ponding in AA

LAND & WATER

☐ No

☐ No

☐ Yes

⊠ Yes

.7 (M)

☐ No

☐ Yes

☐ No

	Cover of	f wetland	l streamb	ank or	D			Water Adjacer	rating exception to Rooted			noderate (M	1), 01 10w ((L) for this	runction.		
	oreline b otmasses		s with dee	ep, bindir	ng [Perman	ent / Peren	nial S	easonal / Int	ermittent	:]Temporar	y / Ephe	meral			
			5 % 64 %														
			5 %														
Comme	nts:				•			•									
i. Ratin A = a	g (Worki creage of	ng from vegetate let; P/P	top to bored compo = permar	ttom, use nent in th nent/peren	the mat ne AA. l nnial; S /	B = struct I = season	to arrive a	at the functional sity rating from tent; T/E/A =	#13. $\mathbf{C} = \mathbf{Y}$ temporary/e	Yes (Y) o phemeral	r No (N) l/absent.		ther or n	ot the Az	A contains	s a surfa	
A				mponent				Vegetated							mponent		
<u>В</u>		High □N	Mo	oderate N		Low	□ H		Moderate ✓ □N	<u> </u>	Low N			⊠Y	oderate N		Low
P/P																	
S/I													-	.5M			
T/E/A																	
Comme 14J. GI	ROUNDV Discharg Sp New Year	ge Indica orings are egetation etland or	tors known of growing ccurs at th	or observe during done toe of a	ed. ormant s a natural	season/dro		the indicators i	n i & ii belo echarge Ino Permea Wetlar Other	dicators able subs	trate pre	sents withou		 lying im	eding la	 yer.	
Comme 14J. GI i. □	ROUNDV Discharg Sp W W Se AA	WATER te Indica prings are egetation etland of eteps are p A perman etland co cher	DISCHA tors known of growing ccurs at the present at mently floo ontains ar	ARGE/R or observeduring done toe of a the wetlated during oded during outlet, b	ed. ormant s a natural and edge ing drou out no in	season/dreslopes. ght periodet.	R) (Check to ought.	the indicators i	n i & ii belo echarge Ino Perme: Wetlar Other	ow that ap dicators able subsi ad contair	oply to the	ne AA) sents without not outl	out under et.	lying im	peding la	yer.	
Comme 14J. GI i. iii. R	Note: ROUNDW Discharg Sp Ve W Se A W Other Other Use	WATER ge Indica prings are gegetation getland oc peps are p A perman getland co cher	DISCHA tors known of growing ccurs at the present at nently flo ontains ar	ARGE/R or observ. during d ae toe of a the wetla oded dur a outlet, b	ECHANGE of the control of the contro	season/dreslopes. ght periodet. 14j(ii) ab	R) (Check to ought. ds.	the indicators i ii. □ R	n i & ii belo echarge Ino Perme: Wetlar Other	ow that ap dicators able subsi ad contair	oply to the trate pre has inlet b	ne AA) sents without not outl ut and ratin I Point and	out under et.	lying im	peding la	yer.	
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iii. R:	nts: ROUNDW Discharg Sp Ve W Se A Ot dating: Us has know Discharge	WATER te Indica orings are getation etland oc etland oc etland co ther se the inf wn Dische e/Rechar	DISCHA tors known of growing ccurs at the present at nently flo ontains ar	ARGE/R or observeduring due toe of a the wetla oded dura outlet, b	ed. ormant s a natural and rou out no in U(i) and Criteria a or one ent	season/dreslopes. ght periodet. 14j(ii) ab	R) (Check to ought. ds. ove and the indicators of	the indicators i ii. □ R	n i & ii belo echarge Ino Perme: Wetlar Other	ow that ap dicators able subsi ad contair	oply to the trate pre has inlet b	ne AA) sents without not outl ut and ratin I Point and	out under et.	lying im	peding la	yer.	
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iii. R: AA No Ava Comme	nts: ROUNDV Discharg Sp Ve W Se AA Ot Ot has know Discharge illable Discharge which is ints:	WATER ge Indica orings are gegetation etland oc epeps are p A perman etland co cher see the inf vn Disch. e/Rechar scharge/l	DISCHA tors known of growing securs at the present at the mently floornation arge/Recl ge indica Recharge	ARGE/R or observed during due toe of a the wetla oded during outlet, but the deciration of the decirat	ed. ormant sa natural and edge ing drou out no in J(i) and Criteria a or one ent ion inad	RGE (D/I season/dreslopes. ght periodet. 14j(ii) ab or more i	R) (Check to ought. ds. ove and the indicators of rate AA D	the indicators i ii. R e table below t	n i & ii belo echarge Ino Permea Wetlar Other	ow that apdicators able subside contains the function of the f	oply to the trate present in the trate present in the transfer of the transfer	ne AA) sents without not outled the and rating the and rating the and	out under et. g of high l Rating	rlying im	peding la	yer.	
iii. R: AA No Ava Comme	NIQUEN ROUNDV Discharg Sp Ve M Se AA Ot Ating: Us Discharge ilable Discharge	WATER ge Indica orings are gegetation etland oc epeps are p A perman etland co cher see the inf vn Disch. e/Rechar scharge/l	DISCHA tors known of growing cours at the present a	ARGE/R or observed during due toe of a the wetla oded during outlet, but the decision of the wetla oded from 14. Grange area tors present information outlet, use the decision of the wetla of the wetl	ed. ormant s a natural and edge ing drou out no in J(i) and Criteria a or one ent ion inad e the ma A contain 80 yr-old sociation	RGE (D/I season/dreslopes. ght periodelet. 14j(ii) ab or more i equate to trix below s fen, bog,) forested tilsted as ";	R) (Check to ought. ds. ove and the indicators of rate AA D	the indicators in ii. R	n i & ii belo echarge Ine Perme: Wetlar Other o arrive at the state of the state o	ow that apdicators able subsaid contain the function of or contain tructural displant asso	oply to the trate present in the trate present in the transfer of the transfer	ne AA) sents without not outled the and ratin length Point and length Point and length	e (M), or AA d types diver	low (L)	peding la	yer. or this function. iously cite structural derate.	nction.
iii. Rain AAA No Ava Comme	nts: ROUNDV Discharg Sp Ve W Se AA Ot Ot ating: Us has know Discharge iilable Dis nts: NIQUEN ng (Work:	WATER te Indica prings are getation etland oc teps are p A perman etland co ther se the inf wn Disch e/Rechar scharge/I VESS ing from ment Poter Abundance	DISCHA tors known of growing cours at the present at mently flo portains ar formation arge/Recl ge indica Recharge top to be tial	ARGE/R or observed during doe toe of a the wetla oded during outlet, but the wetla oded from 14. Grange area tors present informat A. (> as	ed. ormant s a natural and edge ing drou out no in J(i) and Criteria a or one ent ion inad e the ma A contain 80 yr-old sociation	RGE (D/I season/dreslopes ght periodet. 14j(ii) ab or more i equate to trix below s fen, bog,) forested tilsted as ":	R) (Check to ought. ds. ove and the indicators of a rate AA D w to arrive : , warm spring wetland or p S1" by the M common	the indicators in ii. R	n i & ii beldecharge Inc Perme: Wetlar Other Other o arrive at the state of the	rating of plant asson	poply to the trate present in	at and ratin Point and Holm an	e (M), or	low (L)	peding la	yer. or this function. iously cite structural derate.	nction.
iii. Raii AA No Ava Comme 14K. U i. Ratin	nts: ROUNDW Discharg Sp Ve W Se AA Ot Ating: Us has know Discharge illable Dis nts: NIQUEN Replacen	WATER ge Indica orings are gegetation etland oc eeps are p A perman etland co cher se the inf vn Disch. e/Rechar scharge/I VESS ing from ment Poter Abundanc at AA (#	DISCHA tors be known of growing securs at the present at the prese	ARGE/R or observed during due toe of a the wetla oded during outlet, but the decision of the wetla oded from 14. Grange area tors present information outlet, but the decision of the decisio	ed. ormant s a natural and edge ing drou out no in J(i) and Criteria a or one ent ion inad e the ma A contain 80 yr-old sociation	RGE (D/I season/dreslopes ght periodet. 14j(ii) ab or more i equate to trix below s fen, bog,) forested tilsted as ":	R) (Check to ought. ds. ove and the indicators of a rate AA D w to arrive: , warm spring wetland or p S1" by the M	the indicators in ii. R	n i & ii beldecharge Inc echarge Inc Permea Wetlar Other Other al point and AA does not types and so or contains by the MT	rating of ot contain d plant asson	oply to the trate present in t	at and ratin Point and Holm an	e (M), or AA d types diver	low (L)	peding la	yer. or this function. iously cite structural derate.	nction.

i.	Is the AA a known recreational or educational site?
ii.	Check categories that apply to the AA: ☐ Educational / scientific study ☐ Consumptive rec. ☐ Non-consumptive rec. ☐ Other
iii.	Based on the location, diversity, size, and other site attributes, is there a strong potential for recreational or educational use?
	✓ Yes [Proceed to 14L (ii) and then 14L(iv).] □ No [Rate as low in 14L(iv)]
iv.	Rating (Use the matrix below to arrive at the functional point and rating of high (H) moderate (M) or low (L) for this function

]	Disturbance at AA from #12(i	
Ownership	Low		☐ High
Public ownership		.5(M)	
Private ownership			

Comments: weltnad plant study; diversity increasing or at least becoming more proliferative.



FUNCTION, VALUE SUMMARY, AND OVERALL RATING

Function and Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0.00	1	
B. MT Natural Heritage Program Species Habitat	L	0.00	1	
C. General Wildlife Habitat	M	0.50	1	
D. General Fish/Aquatic Habitat	NA			
E. Flood Attenuation	L	0.20	1	
F. Short and Long Term Surface Water Storage	M	0.60	1	
G. Sediment/Nutrient/Toxicant Removal	M	0.70	1	
H. Sediment/Shoreline Stabilization	NA			
I. Production Export/Food Chain Support	M	0.50	1	
J. Groundwater Discharge/Recharge	Н	1.00	1	
K. Uniqueness	L	0.30	1	
L. Recreation/Education Potential	L	0.50	1	
	Totals:	4.30	10.00	3
	Percent of	Total Possible Points:	43% (Actual / Possible) x 100 [rd to nearest whole #]

Category I Wetland: (Must satisfy one of the following criteria. If not proceed to Category II.) ☐ Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or ☐ Score of 1 functional point for Uniqueness; or ☐ Score of 1 functional point for Flood Attenuation and answer to Question 14E(ii) is "yes"; or ☐ Percent of total Possible Points is > 80%.
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following Category II criteria. If not satisfied, proceed to Category IV.) Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish/Aquatic Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish / Aquatic Habitat; or Score of .9 functional point for Uniqueness; or Percent of total possible points is > 65%.
☐ Category III Wetland: (Criteria for Categories I, II, or IV not satisfied.)
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied.) Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; If not satisfied, proceed to Category III.) "Low" rating for Uniqueness; and "Low" rating for Production Export / Food Chain Support; and Percent of total possible points is < 30%.
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; If not satisfied, proceed to Category III.) "Low" rating for Uniqueness; and "Low" rating for Production Export / Food Chain Support; and



Appendix C

SCHOOL MITIGATION SITE: REPRESENTATIVE PHOTOGRAPHS 2003 AERIAL PHOTOGRAPH

MDT Wetland Mitigation Monitoring Lame Deer - East Mitigation Site Lame Deer, Montana





Location: A **Description:** South Cell wetland view, border **Compass Reading:** 170°



Location: C **Description:** South Cell wetland view, border **Compass Reading:** 76°



Location: E **Description:** Across dike from South Cell toward north cell **Compass Reading:** 17°



Location: B **Description:** South Cell wetland view, center **Compass Reading:** 130°



Location: D **Description:** Across dike from South Cell toward school **Compass Reading:** 290°



Location: F **Description:** From storm culvert across south cell **Compass Reading:**





Location: G **Description:** South cell, beginning of transect **Compass Reading:** 130°



Location: H **Description:** South cell, end of transect **Compass Reading:** 210°



Location: I **Description:** North Cell view from central dike toward 212 stop sign **Compass Reading:** 16°



Location: J **Description:** North Cell view toward creek **Compass Reading:** 314°



Location: K **Description:** North Cell, vegetation along north side of dike **Compass Reading:** 44°



Location: L **Description:** North Cell, vegetation east of road and north of dike **Compass Reading:** 18°





Location: M Description: North Cell south transect end **Compass Reading:** 358°



Location: O Description: North Cell, north transect end **Compass Reading:** 174°



Location: Q Description: View inside North Cell



Location: N **Description:** North Cell, view south from south transect end **Compass Reading:** 290°



Location: P Description: North Cell, view south **Compass Reading:** 100°





Appendix D

1999 GRADING AND PLANTING PLANS, SCHOOL RESERVE MITIGATION SITE

MARTIN LETTER: SANITARY SEWER LINE
CARTER-BURGESS LETTER PERTAINING TO WETLAND
MITIGATION ACREAGE
2003 RECREATED HWY. 212 WETLANDS WETLAND SITE
PLANS

MDT Wetland Mitigation Monitoring Lame Deer - East Mitigation Site Lame Deer, Montana



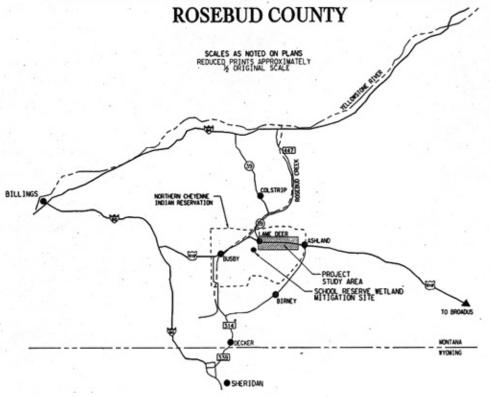
MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT NO.NH37-2(16)42, NH37-2(17)49. LAME DEER-EAST AND EAST OF LAME-DEER-EAST. SCHOOL RESERVE WETLAND MITIGATION SITE



PROJECT NUMBER

MG7-2(16)42, MG7-2(17)49 SECT NO.



PRISLIMINARY- FOR REVIEW FINAL PLANS

PLANS PREPARED BY

Carter=Burgess

216 SIXTEENTH STREET MALL, SUITE 1700 DENVER, COLGRADO 80202 (5031 620-5240

RELATED PROJECTS

LAME DEER-EAST AND EAST OF LAME DEER-EAST ROAD IMPROVEMENTS. RP(MP) 42.1 TO 54.3 MONTANA
DEPARTMENT OF TRANSPORTATION

APPROVED:

MARVIN DYE

DIRECTOR OF TRANSPO

PRECONSTRUCTION ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED

DIVISION ADMINISTRATOR

DATE



Montana Department of Transportation P.O. E ox 460 Miles City MT 59301

March 16, 2001

David Milligan
Environmental Protection Department
Northern Cheyenne Tribe

Subject: NH 37-2(16)42F

Lame Deer-East

Lame Deer Wetland Site

RECEIVED

MAR 1.9 2001

ENVIRONMENTAL

Due to concerns from the Northern Cheyenre's Utility Department, further survey work was done at the subject site to determine cover for the sanitary sewer line running through the wetland. This survey led to the ciscovery that no cut could be made over the existing sewer line due to freeze and thaw cousing future breaks. Department project personnel redesigned this area to leave a 6m ster wide area at existing elevation over the existing sewer. In addition a 6:1 slope is to be built from this area down to plan elevations of the wetland on both sides of the existing sewer line.

At this time, no other changes will be made to the designed wetland site. With no fill being placed over the sewer line, a good chance exists that no substantial acreage will be lost, as the soil over the line will be wet and seeded as per contract plans.

If you have any questions, please contact me.

Respectfully

Douglas J. Martin

Engineering Project Manager

Cc: Project File

Dist. Construction File

Terry Yarger Larry Sickerson

Riverside Contracting Inc.

DJM: jj





Consultants in Planning Engineering, Architecture, Construction Management, and Related Services

January 19, 2000

Mr. Paul Ferry Montana Department of Transportation 2701 Prospect Avenue Helena, MT 59620-1001

RE: Lame Deer East NH 37-2 (16) 42 Control No. 0874 CC: G.Stock

J. Man

B. Bro

T. Atk

L. Lirbut

S. Althor

L. Sickerson

File (on)

Dear Paul:

Please find attached our final plans submittal for the Lame Deer-East project. We have incorporated the comments and direction received from recent e-mails from Larry Sickerson, Ray Mengel, Todd Tillinger and you, in addition to comments received from the P-I-H meeting.

- 1). I contacted the NCT regarding the seed mix content and ratios and Desi Roleffson had already gone back to Washington, D.C. Phil Johnson had given me direction to raise the Great Basin Wild Rye to (9.5) kgs. per hectare.
- 2). I was able to locate some information on the water (tap?) from the NCT utilities. (see attached. It doesn't appear to be affected by the project's excavation. However, please review the attached to see if you agree with this assumption.
- 3) We have included a soft surface trail with crusher fines through the site. As directed by the Corps (Todd Tillinger), this quantity of surface area has been deleted from the total mitigation acreage. Direction is needed regarding a culvert crossing beneath the path at the drainage swale.
- 4) The mitigation acreage previously estimated will be reduced to 0.68 hectares (1.68 acres) due to the trail. This is information the Corps will be interested in. This roughly equates to 0.5 hectare (1.23 acres) of wetland creation and 0.18 hectare (0.45 acre) of restoration.
- 5) An outstanding issue was a staking plan. We have provided elevations on the cross-sections at every 20 meters from the centerline and at key elevation changes. Please advice if this is sufficient or another method is preferred.
- 6) While Todd Tillinger's response to the erosion control plan allowed that further coordination with the EPA may be required, we kept the erosion control item quantities in the plans as directed at the P-I-H meeting.

At this time, I think it is appropriate to re-iterate that Carter-Burgess staff and consultants have prepared these plans based on the information we had available. It is Carter-Burgess'



standard practice to design a wetland mitigation site, particularly creation sites, with multiyear studies on groundwater levels. In addition no information was available on the adjacent creek or culvert water levels or flow data for the Lame Deer-East project. We would like to recommend again that MDT or the contractor monitor the ground, culvert and creek water elevations and flow quantities on a bi-monthly basis throughout the next year and preferably two years. We have written on the plans that the contractor verify site conditions for ground and surface water levels. MDT could make this a requirement.

We recommend MDT have a wetland specialist on-site through construction to judge site conditions, make judgements on how to excavate, whether to dewater the site or not, modify the grading plans as needed, and determine where to plant the shrubs and sow seeds based on final site conditions.

We recommend the construction documents include a contractor's warrantee for the survival and establishment of all wetland plants (seeded or planted) for at least one year after construction is complete and accepted by MDT. In regards to the performance standards required by the Corps, we recommend to incorporate maximum flexibility. These should not specify the size of each wetland type (ie. Area of surface water, wet meadow or marsh). This allows MDT to change the planting plan in response to site conditions without having to change the grading or re-grade the site. I requested a copy of the performance standards from Larry Urban, but haven't received them yet.

It is our intent to provide MDT with the most successful product (plans) possible and hence, these recommendations. Please let me know if you have any comments on the plans or these recommendations.

Sincerely,

Diana Bell

Carter-Burgess

Diana Bell

Attachments

cc. Larry Sickerson
Gordon Stockstad
Ray Mengel
Bill McChesney
Tom Atkins
Diane Yates
Chris Ricciardiello
Jeanette Lostracco

J:\97705901\Deer\manage\Corr\finalplans.doc

15. Functions and Values Assessment
15.a) Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals
AA is documented or suspected (circle D or S) to receive: D S Regular use or is designated critical habitat (list species): D S Occasional (infrequent, sporadic) use (list species): D S Incidental techanoc, inconsequential) use (list species): 6010 eagle wrigrands
Source(s) for documented use (e.g., observation, records, etc.): Comments:

Points Level Use: doc/reg High 3 doc/ocs High J pus'reg Mod Mod .6 pas/occ 2 docfools Low ı, Low pas/soció

D S D(S) Source(s) for documented use (e.g., observation, records, etc.):

Regular use (list species):

AA is documented or suspected (circle D or S) to receive:

(No use

D S

D S

1999)

3. Evaluation Date: 20-21 Apr

System

(Cowardin)

Riverine

Others

HGM Class

Riverine

13. Habitat Diversity

23 = 5 points 2 = 3 points s1 = 1 point

A). # of persistent vegetated

classes (circle points)

(Brinson)

MNHP or Tribal listings of any sort. Apprec. human disturbance from nearby schools.

Occasional (infrequent, sporadic) use (list species):

Incidental (chance, inconsequential) use (list species):

At is known or suspected (circle K or S) to receive (fill in blank) substantial (s), moderate (m), or little to no (l) use (see definitions for these terms) by the listed wildlife groups	Seare	Rating	Functional Points
(see definitions for aquatic/semi-aquatic and non-aquatic wildlife)	21	High	ı
(K)S MAquatic'semi-aquatic birds (list examples): C. STUPE	14	High	9
MAquatic/semi-aquatic birds (list examples): C. 5 Mper M Non-aquatic birds (list examples): Y. w. blackhirds, etc. rate - ht apicals K S L Aquatic/semi-aquatic mammals (list examples): 20541M2 SKUNK, raccoon, etc. K S L Non-aquatic mammals (list examples): 2011M2 SKUNK, raccoon, etc. K S L Non-aquatic reptiles (list examples): 2011M2 SKUNK, raccoon, etc. K S L Non-aquatic reptiles (list examples): K S L Amphibians (list examples): K S L Invertebrates (list examples):	,	High	.3
K(S) L Non-aquatic mammals (list examples): L Aquatic/semi-aquatic reptiles (list examples): painted furthes	2	High	1
K Non-aquatic reptiles (list examples): K L Amphibians (list examples):	6	Mod	3
KS LInvertebrates (list examples):	3	Mod	.4
i. Assessed wildlife use (circle points): ii. Habitat diversity from #13 (circle points)	2	Low	3
1-2 S's or 2-4 M's = 7 points High to exceptional rating = 3 points 1-2 S's or 2-4 M's = 3 points Moderate rating = 2 points	ı	Low	.1
No S's and < 2 M's = 1 point Low rating = 1 point			
comments: More practically a moderate at present with potential for betterment through enhancement see		_	
with potential for betterment through enhancement so	x (i) zi sna	(ii) = _ <u>9</u>	
15.d) General Fish Habitat (If AA does not contain or is not surficially connected to a stream or standing water body [e.g., pond or lake], circle NA here and proceed to next function)	Scare	Rating	Functional Points
i. AA is known or suspected (circle K or S) to support listed groups for partion of their ii. Surface water in	9	High	ī
S S S S S S S S S S	6	High	.1
K S Rough fish, but no game fish = 2 points Seasonal/intermittent = 2 points	4	Mod	.6
K S No fish = 1 point 1 emporary/epinemeral = 1 point	2	Mod	3
Comments:	1	Low	.1
NA.	_	-	
	re is (i) x	(ii) =	
15.e) Flood Attenuation and Storage (Applies only to wetlands subject to flooding via overbank flow. If wetlands in the AA are not flooded from overbank flow, circle NA here and proceed to next function. See 15.1) for wetlands that flood, but not	Score	Rating	Functional Points
from overbank flow.) i. Estimated acreage of jurisdictional ii. Estimated % of flooded wetland area classified as as forested(fo), scrub-shrub (ss),	22	High	1
wetland in the AA that is subject effectively points): to periodic flooding (circle points): or both (circle points)	16, 21	High	9
Flooded wetlands > 20 acres = 7 points > 75% fo/ss = 3 points	14,15	High	.5
20 acres > Flooded wetlands > 5 acres = 5 points 25.75% 50/ss = 2 points Flooded wetlands s 5 acres = 1 point 25% 50/ss = 1 point	11	High	.2
Flooded wedating 3.7 and 5	8	Mod	.6
iii. AA contains no outlet or restricted outlet l point	6,7	Mod	3
AA contains unrestricted outlet = Opoints	0	(Mod)	(1)
iv. Are residences, businesses, or other features which may be damaged by floods located within 0.5 miles downstream of AA? 485 If so, list here: DCCQS 1000 Yes identity adjacent to	3	Law	3
Claradian.	2	Low	2
comments: I am Dear Cat may experience brut, Hashy	1	Low	J
vun-off events vs. major spring run off.		_	
15.f) Sediment/Nutrient/Toxicant Retention and Removal Circle true (1) of false (F) for each of the following statements: A receives direct discharge of managed water (municipal or road stormwater drainage, agricultural draindustrial/municipal wastewater) or accumulation of sediment/excess nutrients evident (deposits on veg algal mats or other signs of eutrophication present) or immediate upstream land use has potential to delisting influence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding or ponding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a sequence of flooding occurs in A. July was a se	ctation,		
iii. AA contains restricted outlet or no outlet such that flow is slowed or detained. Percent cover or emergent and/or dense woody vegetation in the AA exceeds 50%.	Score	Rating	Functional Points
(i) is true and at least two of (ii),(iii), or (iv) are true = High rating Rating is neither High or Low = Moderate rating	NA A	High 6	
Rating is neither High or Low = Moderate rating (i) is false and at least two of (ii), (iii), or (iv) are false = Low rating	NA (High (5
Rating is neither High or Low = Moderate rating	NA (High () Mod	5

AND & WATER D-9	15.g) Sediment/Shoreline Stabilization (applies only if AA occurs on the banks of a river, stream, or other natural or manmade	Seem	Rating	Functional
	drainage, or on the shoreline of a standing water body which has a maximum depth exceeding 6.5 feet at low water (e.g., subject to wave action). If does not apply, circle NA here and proceed to next function.		-	Points
		15	High	1
	i. Estimated % cover of rooted vegetated ii. Water body adjacent to rooted			9)
rejected-	component in AA (circle points) > 30% rooted vegetation = (3 points) Permanent/perennial = 5 points	6	High (Mod)	.8
current -		-	Mod	(1)
C. 001	< 10% rooted vegetation = 1 point Temporary/ephemeral = 2 points	5	Mod	.4
		1	Low ·	1
	Comments: Lame Reer Crk. flowed less than 1 cfs. at	2	Low	ı.r
	time of April's delimention. Score is (1) x (11) = 6 vs. 15			
			-	
	i. Acreage of vegetated component in AA (circle points) (from #13: circle points)	Score	Rating	Points
	in AA (circle points) > 5 acres = (10 points) High - Exceptional (3 points)	39	High	l
	1-5 acres = 5 points Moderate = 2 points	21(36)		9
	< acre = 1 point	16-19	High	.8
	m. a	10-14	Mod	.7
	iii. Outlet presence (circle points) AA contains an outlet = 3 points Permanent/perennial = 3 points	8-9	Mod	.6
	AA contains no outlet = 1 point / Seasonal/intermittent = (2 points)	7	Mod	2
	Temporary/ephemeral or absent = point	5,6	Law	.4
	Comments: Seems arbificially high in light of	4	Low	3
	comments: Seems arbificulty high in light of small, intermitted stream volumes. Score is [() x (ii)] + [(iii) x (iv)] = 36	3		2
	A STATE OF THE PROPERTY OF THE	_	Low	.1
	15.i) Groundwater Discharge/Recharge i. Check the discharge indicators listed below that apply to the AA Springs are known or observed in the AA. Springs are known or observed in the AA. Seeps are present at the wetland edge.	Score	Rating	Functional Points
	Vegetation is growing during dormant	NA	High	1
	Wetland occurs at the toe of a natural slope. Wetland contains an outlet, but no inlet. Other:	NA	Low	1 .
		NA (Unkn	NA)
	ii. Check the recharge indicators listed below that apply to the AA Permeable substrate present without underlying impeding layer. Wetland contains inlet, but no outlet. Other: AA is known discharge or recharge area or one or more indicators of discharge or recharge present. No discharge or recharge indicators present. Available information pertaining to AA is	Mod	rating legate reti	15
	inadequate to judge discharge/recharge potential	- Unk	nowa	
				• .
	Comments: Heeds Further research. Upstream reach of Came	Deer	Crk.	ile .
	comments: Needs Further research. Upstream reach of lame appears to be subsurface source of recharge on t	Deer the Sc	Crk.	
	comments: Needs Further research. Upstream reach of Came appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of	Deer	Crk.	Functional Points
	Comments: Needs Further research. Upstream reach of Came's appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the ii. Replacement potential/habitat	Deer Le Sc Score	Crk. hoel (Functional Points
	Comments: Needs Further research. Upstream reach of Came's appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the ii. Replacement potential/habitat USGS Hydrologic Unit (#11: circle points): diversity (#12: circle points):	Deer Le Sc Score	Crk. horel (Ration High	Punctional Points
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points A is/contains bog, fen, warm springs or	Score 33	Crk. hool (Ration High High	Functional Points
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points AA is/contains bog, fen, warm springs or mature (>80 years) forested wetland = 10 points Abundant = 1 point AA does not contain above but habitat	Deer Le Sc Score	Crk. hos G Rating High High High	Functional Points 1 9 .
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points Common = (2 points) Abundant = 1 point Ad does not contain above but habitat diversity is high - exceptional = (3 points)	Score 33	Crk. hool (Ration High High	Functional Points
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit [11]: circle points): Rare = 3 points Common = (2 points) Abundant = 1 point Abundant = 1 point Abundant = 1 point Abundant = 3 points	Deer 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Crk. hos G Rating High High High	Functional Points 1 9 .
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points Common = (2 points) Abundant = 1 point Abundant = 1 point Ad does not contain above but habitat diversity is high - exceptional Ad does not contain above and habitat diversity is low - moderate = 1 point	Deer 5 5core 33 31,32 22,23 12-21 10,11	Crk. horol (Raning High High High High	Functional Points 1 9 . 3
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit [11]: circle points): Rare = 3 points Common = (2 points) Abundant = 1 point Abundant = 1 point Abundant = 1 point Abundant = 3 points	Deer 1	Ratios Ratios High High High Mod Mod	Functional Points 1 9 . 3 .7 .5
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on the stimuted occurrence frequency of similarly classified sites within the USGS Hydrologic Unit [11]: circle points): Rare = 3 points	Deer 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Ratios Ratios High High High Mod Mod Mod	Functional Points 1 9 .t .7 .6 .5 .4
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit [11: circle points]: Rare = 3 points Common = (2 points) Abundant = 1 point Addoes not contain above but habitat diversity is high exceptional Addoes not contain above and habitat diversity is low - moderate 10 points Addoes not contain above and habitat diversity is low - moderate 11 point 12: circle points 13 points Addoes not contain above and habitat diversity is low - moderate 14 point 15 points 16 condition of AA (from \$12: circle points): 17 point	Deer 5 Score 5 Score 133 31,32 22,23 12-21 10,11 35,6,7 4	Rating High High High Mod Mod Low	Functional Points 1 9 A 7 6 3
	Comments: Needs further research. Upstream reach of Lance appears to be subsurface source of recharge on to similarly classified sites within the	Deer 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Ratios Ratios High High High Mod Mod Mod	Functional Points 1 9 .t .7 .6 .5 .4
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on the stimuted occurrence frequency of similarly classified sites within the USGS Hydrologic Unit [11]: circle points): Rare = 3 points	Deer 5 Score 5 Score 133 31,32 22,23 12-21 10,11 35,6,7 4	Rating High High High Mod Mod Low	Functional Points 1 9 A 7 6 3
	Comments: Needs Further research. Upstream reach of Lance appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points Common = 2 points Abundant = 1 point Abundant = 1 point Addoes not contain above but habitat diversity is high - exceptional Addoes not contain above and habitat diversity is low - moderate 10 points Addoes not contain above and habitat diversity is low - moderate 11 point 12 points Comments: Score is [(i) x (ii)] + (iii) = 8	Deer 5 Score 5 Score 133 31,32 12,23 12,21 10,11 5,6,7 4 2,3	Ratios Ratios High High High Mod Mod Low Low	Functional Points 1 9 .t .7 .6 .53 .2 .1
	Comments: Needs Further research. Upstream reach of Lame appears to be subsurface source of recharge on to similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points	Deer 5 Score 5 Score 133 31,32 12,23 12,21 10,11 5,6,7 4 2,3	Ratios Ratios High High High Mod Mod Low Low	Functional Points 1 9 .t .7 .6 .3 .4 .3 .2 .1
	Comments: Needs further research. Upstream reach of Lanu appears to be subsurface source of recharge on to the similarly classified sites within the similarly classified sites within the site of the site	Deer Score S	Rating High High High Mod Mod Low Low Rating	Functional Points 1 9 .1 .7 .6 .3 .4 .3 .2 .1 Functional Points
	Comments: Needs further research. Upstream reach of Lanu appears to be subsurface source of recharge on to the similarly classified sites within the similarly classified sites within the site of the site	Deer Score S	Rating High High High Mod Mod Low Low Rating	Functional Points 1 9 .t .7 .6 .3 .4 .3 .2 .1
	Comments: Needs further research. Upstream reach of Lance appears to be subsurface source of recharge on to similarly classified sites within the similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points Common = 2 points Abundant = 1 point Abundant = 1 point Addoes not contain above but habitat diversity is high - exceptional Addoes not contain above and habitat diversity is low - moderate iii. Condition of AA (from #12: circle points): Undisturbed = 3 points Directly Disturbed = 1 point Comments: Score is [(i) x (ii)] + (iii) = 8 15.k) Recreation/Education Potential i. Is the AA a known rec/ed site (circle)? Y(N) Iff yes, rate as High and go to ii. If no, go to iii.) iii. Check the categories listed below that apply to the AA: Leducation/scientific study consumptive recreation	Deer	Ratios Ratios High High High Mod Mod Low Low Rating High	Functional Points 1 9 1 7 6 3 2 1 Functional Points
	Comments: Needs further research. Upstream reach of canal appears to be subsurface source of recharge on the site of sites within the USGS Hydrologic Unit (#11: circle points): Rare	Score 33 31,32 22,23 12-21 10,11 5,6,7 4 2,1 1 Score 6 ()	Rating High High High Mod Mod Low Low Low Rating High Mod	Functional Points 1 9 .1 .7 .6 .3 .2 .1 Functional Points 1 .7
	Comments: Needs Further research. Upstream reach of Comu- appears to be subsurface source of recharge on to 15.j) Uniqueness i. Estimated occurrence frequency of similarly elassified sites within the USGS Hydrologic Unit (#11: circle points): Rare	Deer	Rating High High High Mod Mod Low Low Low Rating High Mod	Functional Points 1 9 1 7 5 3 2 1 Functional Points 1 7
	Comments: Needs further research. Upstream reach of Lame appears to be subsurface source of recharge on to the site of the site is there strong potential for recreational deducation at location, diversity, size, and other attributes of the site, is there strong potential for recreational deducational use (circle)? No (If yes, go to ii, then proceed to iv. If no, rate as Low [.1].)	Score 33 31,32 22,23 12-21 10,11 5,6,7 4 2,1 1 Score 6 ()	Rating High High High Mod Mod Low Low Rating High Mod Low Low Low Cow Low Rating	Functional Points 1 9 .t .7 .6 .3 .2 .1 Functional Points 1 .7 .5 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
	Comments: Needs Further research. Upstream reach of Lama appears to be subsurface source of recharge on the similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points Common = (2 points) Abundant = 1 point Adoes not contain above but habitat diversity is high - exceptional Adoes not contain above and habitat diversity is low - moderate = 1 point Undisturbed = 3 points Directly Disturbed = 1 point Comments: Score is [(i) x (ii)] + (iii) = 8 15.k) Recreation/Education Potential i. Is the AA a known recred site (circle)? YN (If yes, rate as High and go to ii. If no, go to iii.) iii. Check the categories listed below that apply to the AA: Veducation/scientific study — consumptive recreation — non-coasumptive recreation — others: iii. Based on the location, diversity, size, and other attributes of the site, is there strong potential for recreational/educational use (circle)? YN (If yes, go to ii, then proceed to iv. If no, rate as Low [.1].) iv Condition of AA (from #12; circle points): Undisturbed = 3 points Public = (2 points)	Deer	Rating High High High Mod Mod Low Low Low Rating High Mod	Functional Points 1 9 1 7 5 3 2 1 Functional Points 1 7
	Comments: Needs Further research. Upstream reach of Lama 15.j) Uniqueness L. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): At 15.j) Uniqueness Common = (1 points) Abundant = I point Adoes not contain above but habitat diversity is high -exceptional AA does not contain above and habitat diversity is high -exceptional AA does not contain above and habitat diversity is high -exceptional AA does not contain above and habitat diversity is high -exceptional AA does not contain above and habitat diversity is low -moderate 1 point 15.k) Recreation/Education Potential 1. Is the AA a known rec/ed site (circle)? YN lifyes, rate as High and go to ii. If no, go to iii.) 15.k) Recreation/Education Potential 1. Is the AA a known rec/ed site (circle)? YN lifyes, rate as High and go to ii. If no, go to iii.) 15.k) Recreation/Education Potential 1. Is the AA a known rec/ed site (circle)? YN lifyes, rate as High and go to ii. If no, go to iii.) 15.k) Recreation/Education for the circle points ii. Check the categories listed below that apply to the AA:	Deer	Rating High High High Mod Mod Low Low Rating High Mod Low Low Low Cow Low Rating	Functional Points 1 9 .t .7 .6 .3 .2 .1 Functional Points 1 .7 .5 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
	Comments: Needs Further research. Upstream reach of Comments: 15.j) Uniqueness L. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points	Deer	Rating High High High Mod Mod Low Low Rating High Mod Low Low Low Cow Low Rating	Functional Points 1 9 .t .7 .6 .3 .2 .1 Functional Points 1 .7 .5 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
	Comments: Needs Further research. Upstream reach of Comments: 15.j) Uniqueness L. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points	Deer	Rating High High High Mod Mod Low Low Rating High Mod Low	Functional Points 1 9 .t .7 .6 .3 .2 .1 Functional Points 1 .7 .5 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
	Comments: Needs Further research. Upstream reach of Comments: 15.j) Uniqueness L. Estimated occurrence frequency of similarly classified sites within the USGS Hydrologic Unit (#11: circle points): Rare = 3 points	Deer	Rating High High High Mod Mod Low Low Rating High Mod Low	Functional Points 1 9 .t .7 .6 .3 .2 .1 Functional Points 1 .7 .5 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1



15.1) Dynamic Surface Water Storage (applies to wetlands that do not flood from overhank flow, but flood via 271, upland surface flow, or groundwater flow. If no jurisdictional wetlands in the AA are subject to flooding, circle NA here and proceed with the evaluation.) .. ii. Estimated floo i. Estimated acreage of jurisdictional wetland in the AA Functional frequency (circle points) that is subject to periodic flooding (circle points); Wetland floods > 5/10 years 12 points Flooded wetlands > Sacres = High 5 Wetland floods < 5/10 years = I point 2 points FIT 5 acres > Flooded wetlands > 1 acre = Flooded wetlands < 1 acre = .5 point Low 13 applies to the School site only just Low Score is (i) x (ii) = Husy 212 Function & Value Summary and Overall Rating Possible Evactional Unite Rating Actual Function & Value Parameters Functional (Actual Points x Estimated AA functional **Points** Acreage) unioq 1 Listed/Proposed T&E Species Habitat Low .3 A. 1 D B. MNHP Species Habitat none 7 1 C. General Wildlife Habitat High NA NA D. General Fish/Aquatic Habitat .4 1 Μοδ E. Flood Attenuation and Storage High 1 F. Sediment/Nutrient/Toxicant Removal projected .9 ١ Mod .7 G. Sediment/Shoreline Stabilization 1 - 8 High H. Production Export/Food Chain Support X none none I. Groundwater Discharge/Recharge UNK. 1 Mob .5 J. Uniqueness projected Mad .5 1 K. Recreation/Education Potential L Dynamic Surface Water Storage MA NA 549. 4.9 as now eccurs Totals 5.6 = 9.0 = 62% projected Overall AA Rating (Circle appropriate category based on the criteria outlined below): (III Category I Wetland - Must satisfy one of the following criteria: Score of .9 or 1 functional point for Threatened or Endangered Species; or Score of 9 or 1 functional points for Uniqueness or "High" rating for Uniqueness and Condition (#12) is "Undisturbed"; or Score of I functional point for Flood Attenuation and Storage and answer to Question 14.E.3 is "yes"; or Total actual functional points > 80% (round to nearest tenth) of total possible functional points. Category II Wetland - Does not satisfy criteria for Category I and: Score of I functional point for Species Rated S1, S2, or S3 by the Montana Natural Heritage Program; or Score of I functional point for General Wildlife Habitat; or "High" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or "High" rating for Uniqueness or Total actual functional points > 65% (round to nearest tenth) of total possible functional points. Category III Wetland - Does not satisfy criteria for Category I, Category II, or Category IV. Category IV Wetland - Does not satisfy criteria for Category I, Category II, or Category III and: "Low" rating for Uniqueness; and "Low" rating for Production Export/Food Chain Support; and Total actual functional points < 30% (round to nearest tenth) of total possible functional points. (F4)

wellands of the smaller school site just south of Huy 212 are more appropriately a Cat. IV when considered apart from the healthur system north of the road.



PROJECT NAME LAME DEEL GER SCHOOL SITE

WETLAND SITE # N/A

DATAPOINT # N/A

LIDELAND	GENUS/SPECIES	COMMON NAME	STRATA	INDICATOR
WETLAND		broad-based cathail	F	OBL
c -	Carex nebroscensis	Nebraska sedge	e	081
Z.	Carrox spp. (aguatus?)	sedge spp.	G	OBL
2-	Scirpus acutus	hard-stem butrush	F	OBL
7-	1	soft-stemmed butrust	F	08L
C	Scipus americanus	Oney 3-square lutrush	F	086
c.	Stalix exique	streambank willow	5	OBL
7-		ישוומט אף.	5	likely FACW
C -	Hordeum jubatum	Foxtail barky	6	FAC+
Τ-		prairie corderass	6	FACW
R.	1 1	curry dock	F	FAGW
C-	Muhlenbergia spp.	muhly spp.	G	likely FACW
R-	Heracleum lanatum	com parsnip	F	FAC
R-	Glycyrhugga lepidota	American liconicu	E	FAC+
C-	Equisebin hyemale	rough horsekail	F	FACW
Τ-	Tragapogon dubius	westorn salsify	F	MI
UPLAND -	Populus feitoides	plains cottonwood	SAP-Tree	FAC
	Acer regundo	boxelder	S - SAP	FAC+
	Frakinus pennsylvanica.	green ash	SAP- TYCL	FAC
	Prunus virginiana	common chokecherry	5	FAGU
	Prupus americana	american plum	S	FACU
	Symphoricarpos occidentalis	w. snowberry	S	FACUL
R.	Grindelia squarosa	curly cap gammers	F	FACU
τ.	Carduus nubans	musk thistler	F	NI
R-	Solidago occidentatio	western goldenrod	F	NI
_	Circium arvense	canada thistle	F	FACUL+
	Agropyron spp.	wheatarass spp.	G	I WHY FACU
	Rosa acicularis	prickly rose	5	FACIL
	melibrus officinalis	gerian sweetclover	F	FAKU

THOUSEDT HAME LAME DEER CRK. SCHOOL SIND - CONTINUED CAND & WATER DIE

VETLATO SITE # N/A

DATAPOINT # N/4

UPLAIND	GEMUS/SPECIES	COMMON PARE	STRATA	INDICATOR
ont. R-	Record	smooth brome	6-	TN
τ-	Archum minus	purdock	F	14
· ·	Clematis spp.	Virgins-bower with	J .	likely FACU
R	Lactucca serrola	prickly letteren	F	FAC -
т-	Urtica Siona	stinging nettler	F	FAC+
	Rosa arkansana	prairie rises	5	NI
	Sheperoia argentea	buffaloberry	5	NI
			1	
				. /
				1
PLAND				,:
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Appendix E

BIRD SURVEY PROTOCOL GPS PROTOCOL

MDT Wetland Mitigation Monitoring Lame Deer - East Mitigation Site Lame Deer, Montana



BIRD SURVEY PROTOCOL

The following is an outline of the MDT Wetland Mitigation Site Monitoring Bird Survey Protocol. Though each site is vastly different, the bird survey data collection methods must be standardized to a certain degree to increase repeatability. An Area Search within a restricted time frame will be used to collect the following data: a bird species list, density, behavior, and habitat-type use. There will be some decisions that team members must make to fit the protocol to their particular site. Each of the following sections and the desired result describes the protocol established to reflect bird species use over time.

Species Use within the Mitigation Wetland: Survey Method

Result: To conduct a bird survey of the wetland mitigation site within a restricted period of time and the budget allotment.

Sites that can be circumambulated or walked throughout.

These types of sites will include ponds, enhanced historic river channels, wet meadows, and any area that can be surveyed from the entirety of its perimeter or walked throughout. If the wetland is not uncomfortably inundated, conduct several "meandering" transects through the site in an orderly fashion (record the number and approximate location/direction of the transects in the field notebook; they do not have to be formalized or staked). If a very small portion of the site cannot be crossed due to inundation, this method will also apply. Though the sizes of the site vary, each site will require surveying to the fullest extent possible within a set time limit. The optimum times to conduct the survey are in the morning hours. Conduct the survey from sunrise to no later than 11:00 AM. (Note: some sites may have to be surveyed in the late afternoon or evening due to time constraints or weather; if this is the case, record the time of day and include this information in your report discussion.) If the survey is completed before 11:00 AM and no additions are being made to the list, then the task is complete. The overall limiting factor regarding the number of hours that are spent conducting this survey is the number of budgeted hours; this determination must be made by site by each individual.

In many cases, binoculars will be the only instrument that is needed to identify and count the birds using the wetland. If the wetland includes deep water habitat that can not be assessed with binoculars, then a scope and tripod are necessary. If this is the case, establish as many lookout posts as necessary from key vantage points to collect the data. Depending on the size of the open water, more time may be spent viewing the mitigation area from these vantage points than is spent walking the peripheries of more shallow-water wetlands.

Sites that cannot be circumambulated.

These types of sites will include large-bodied waters, such as reservoirs, particularly those with deep water habitat (>6 ft) close to the shore and no wetland development in that area of the shoreline. If one area of the reservoir was graded in such a way to create or enhance the development of a wetland, then that will be the area in which the ambulatory bird survey is conducted. The team member must then determine the length of the shoreline that will be surveyed during each visit.



As stated above in the ambulatory site section, these large sites most likely will have to be surveyed from established vantage points.

Species Use within the Mitigation Wetland: Data Recording

Result: A complete list of bird species using the site, an estimate of bird densities and associated behaviors, and identification of habitat use.

1. Bird Species List

Record the bird species on the Bird Survey - Field Data Sheet using the appropriate 4-letter code of the common name. The coding uses the first two letters of the first two words of the birds' common name or if one name, the first four (4) letters. For example, mourning dove is coded MODO and mallard is MALL. If an unknown individual is observed, use the following protocol and define your abbreviation at the bottom of the field data sheet: unknown shorebird: UNSB; unknown brown bird (UNBR); unknown warbler (UNWA); unknown waterfowl (UNWF). For a flyover of a flock of unknown species, use a term that describes the birds' general characteristics and include the approximate flock size in parentheses; do not fill in the habitat column. For example, a flock of black, medium-sized birds could be coded: UNBB / FO (25). You may also note on the data sheet if that particular individual is using a constructed nest box.

2. Bird Density

In the office, sum the Bird Survey – Field Data Sheet data by species and by behavior. Record this data in the Bird Summary Table.

3. Bird Behavior

Bird behavior must be identified by what is known. When a species is simply observed, the behavior that it is immediately exhibiting is what is recorded. Only behaviors that have discreet descriptive terms should be used. The following terms are recommended: breeding pair individual (BP); foraging (F); flyover (FO); loafing (L; e.g. sleeping, roosting, floating with head tucked under wing are loafing behaviors); and, nesting (N). If more behaviors are observed that do have a specific descriptive word, use them and we will add it to the protocol; descriptive words or phrases such as "migrating" or "living on site" are unknown behaviors.

4. Bird Species Habitat Use

We are interested in what bird species are using which particular habitat within the mitigation wetlands. This data is easily collected by simply recording what habitat the species was initially observed. Use the following broad category habitat classifications: aquatic bed (AB - rooted floating, floating-leaved, or submergent vegetation); forested (FO); marsh (MA – cattail, bulrush, emergent vegetation, etc. with surface water); open water (OW – primarily unvegetated); scrubshrub (SS); and upland buffer (UP); wet meadow (WM – sedges, rushes, grasses with little to no surface water). If other categories are observed onsite that are not suggested here, we will make a new category next year.



E-2

GPS Mapping and Aerial Photo Referencing Procedure

The wetland boundaries, photograph location points and sampling locations were field located with mapping grade Trimble Geo III GPS units. The data was collected with a minimum of three positions per feature using Course/Acquisition code. The collected data was then transferred to a PC and differentially corrected to the nearest operating Community Base Station. The corrected data was then exported to ACAD drawings in Montana State Plain Coordinates NAD 83 international feet.

The GPS positions collected and processed had a 68% accuracy of 7 feet except in isolated areas of Tasks .008 and .011, where it went to 12 feet. This is within the 1 to 5 meter range listed as the expected accuracy of the mapping grade Trimble GPS.

Aerial reference points were used to position the aerial photographs. This positioning did not remove the distortion inherent in all photos; this imagery is to be used as a visual aide only. The located wetland boundaries were given a final review by the wetland biologist and adjustments were made if necessary.

Any relationship of features located to easement or property lines are not to be construed from these figures. These relationships can only be determined with a survey by a licensed surveyor.



Appendix F

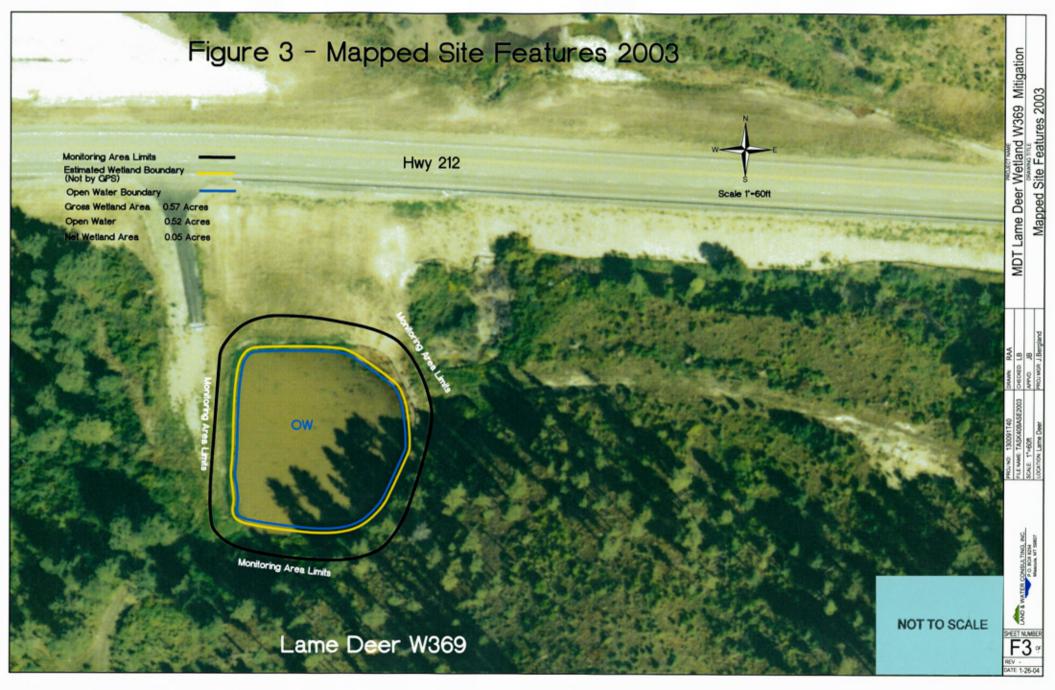
2003 RECREATED HWY. 212 WETLANDS:

FIGURES 2 – 3
WETLAND DELINEATION FORMS
PHOTOGRAPH LOG RECREATED HWY. 212 WETLANDS
REPRESENTATIVE PHOTOGRAPHS
FUNCTIONAL ASSESSMENT FORMS
2003 AERIAL PHOTOGRAPH

MDT Wetland Mitigation Monitoring Lame Deer - East Mitigation Site Lame Deer, Montana











DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project/Site: Lame Deer	Date: 6/23/03
<u> </u>	-
Applicant/Owner: MDT	County: Rosebud
Investigator: LB/LWC	State: MT
Do Normal Circumstances exist on the site: X	Yes No Community ID: emergent
Is the site significantly disturbed (Atypical Situation)?	Yes X No Transect ID:
Is the area a potential Problem Area?:	Yes X No Plot ID: WL-369
(If needed, explain on reverse.)	
VEGE	TATION
Dominant Plant Species Stratum Indicator	Dominant Plant Species Stratum Indicator
1 GLYELA H OBL	9
2 RANUNCsp-aquatic H OBL	10
3 CATAQU H OBL	11
4	12
5	13
6	14
7	15
8	16
Persont of Deminant Charles that are ODL FACIAL or FAC	(avaluating FAC)
Percent of Dominant Species that are OBL, FACW, or FAC	(excluding FAC-). 3/3
WL veg community very small, mostly area is inundated.	
LIVE	201 007
Recorded Data (Describe in Remarks):	ROLOGY Wetland Hydrology Indicators:
Stream, Lake, or Tide Gauge	Primary Indicators:
<u> </u>	
Aerial Photographs Other	X Inundated X Saturated in Upper 12 Inches
X No Recorded Data Available	X Water Marks
	X Drift Lines
Field Observations:	X Sediment Deposits
	X Drainage Patterns in Wetlands
Depth of Surface Water: - (in.)	Secondary Indicators (2 or more required):
	Oxidized Root Channels in Upper 12 Inches
Depth to Free Water in Pit: 0 (in.)	Water-Stained Leaves
	Local Soil Survey Data
Depth to Saturated Soil: @ (in.)	FAC-Neutral Test
surface	
	Other (Explain in Remarks)
Remarks:	1
Outlet culvert plugged; perennial stream flow has bee	en interrupted. Downstream reach receiving
seep/ground water only!	



SOILS

Map Uni	it Name		Bitton-Shamb	0	Drainage Class:	well		
(Series a	and Phase):				Field Observatio	ns		
,	ny (Subgroi				Confirm Mapped	X	Yes	No
	, , ,				Type?			
Profile I	Description):						
Depth		Matrix Color	Mottle Cole	ors I	Mottle	Texture	, Concretio	ons,
inches	Horizon	(Munsell Moist)	(Munsell M	loist)	Abundance/Contrast	Structur	e, etc.	
Hydric S	Soil Indicat	tors:						
	H	listosol			ncretions			
		listic Epipedon			h Organic Content in s		er in San	dy Soils
		Sulfidic Odor			anic Streaking in San			
	Aquic Moisture Regime Listed on Local Hydric Soils List Reducing Conditions Listed on National Hydric Soils List							
		Gleyed or Low-Chroma	Colors		er (Explain in Remark			
edge of V	WI inundated	, no soil pit and no WL f	ringe to establis	sh nit				
cuge of v	vi mundacu,	, no son pit and no WL1	ringe to establis	sii pit.				
<u> </u>			WETLAND	DETERM	NATION			1
	tic Vegetatio							
	Hydrology Pr			la thia Carant	in a Doint Within a Wetler	-40 ***		NI-
Hydric Sc	oils Present?	<u>*</u> Ye	s No	is this Sampi	ing Point Within a Wetlar	$\frac{1}{X}$	Yes _	No
Remark	(S:			l				
		exist, area is inunda						
		ite. Water levels too						
_	-	plugged culvert mo	<u>st likely as a</u>	result of sed	iment inflow that oc	curred aft	<u>er pond v</u>	<u>vas</u>
constru	cted.							

Approved by HQUSACE 2/92



DATA FORM ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project/Site: Lame Deer							Date:	6/23	3/03	
Applicant/Owner: MDT							County:		ebud	
Investigator: LB/LWC							State:	MT		
EB/LWC								1711		
Do Normal Circumstances exi	st on the site:		X	Yes		No	Community	y ID:	emerge	nt
Is the site significantly disturbe	ed (Atypical S	ituation)?		Yes	X	No	Transect II	D:		
Is the area a potential Problen	n Area?:			Yes	X	No	Plot ID:		WL-380	0
(If needed, explain on rever	se.)					_				
		V	EGE	TATI	ON					
Dominant Plant Species	Stratum	Indicator			Dom	inant P	lant Species		Stratum	Indicator
1 TYPLAT	Н	OBL		9						
2 PUCNUT	Н	OBL		10						
3 CARHYS (?)	Н	OBL		11						
4 JUNNEV	Н	NO (wet)		12						
5 JUNNOD	Н	OBL		13						
6				14						
7				15						
8				16						
Percent of Dominant Species	that are ODI	EAC\\\ 0.5		/ovolu	طنم ٦	۸	5/5			
Percent of Dominant Species	iliai ale Obl,	FACVV, OI	FAC	exclu	uilig F	AC-).	5/5			
Several spp. of Juncus, Lemn	<i>a, Scirpus</i> , an	d grasses	w/in th	ne wet	land a	rea.				
		L	IYDR	α	GV					
Recorded Data (De	ecribe in Per		אטוו			vdrolo	gy Indicators			
	im, Lake, or T	,		vveu		-	ndicators:	٥.		
		_			FIII	•				
Othe	ll Photograph: r	5			-		Inundated Saturated in	Unne	r 12 Inches	
X No Recorded Data					-		Water Marks		1 12 11101103	
					-	<u> </u>	Drift Lines			
Field Observations:					-		Sediment De	eposite	S	
					-		Drainage Pa			s
Depth of Surface Water:	-	(in.)			Se	conda	ry Indicators	(2 or	more requii	red):
					_					oper 12 Inches
Depth to Free Water in F	Pit: (filli	ing) (in.)				\	Water-Staine	ed Lea	aves	
					_		Local Soil Su		Data	
Depth to Saturated Soil:	@ su:	rface (in.)			_		FAC-Neutral			
					-	(Other (Expla	ın ın F	Remarks)	
Remarks:										
Circumference is saturated an	d is colonized	l w/ WL ve	g.							
İ										



SUILS								
Map Uni	it Name		Bitton-Shamb	0	Drainage Class:	well		
(Series a	and Phase):				Field Observat	ions		
`	my (Subgrou				Confirm Mappe		Yes	No
					Type?			
Profile I	Description	<u>):</u>						
Depth	11	Matrix Color	Mottle Col		Mottle		Concretio	ns,
inches	Horizon	(Munsell Moist)	(Munsell M	loist)	Abundance/Contrast	Structure		
0-6	A	7.5YR 3/1					silt loam	
3-18	В	7.5YR 3/2					silt clay loar	<u>m</u>
						(carb	on chunks 4	4-18")
Hydric	Soil Indicat			,	Concretions			
		listosol listic Epipedon			Joncretions High Organic Content ir	n surface Lav	er in Sand	v Soile
		sulfidic Odor			Organic Streaking in Sa		er iii Sanu	y Oolio
		quic Moisture Regime			isted on Local Hydric S			
		Reducing Conditions			_isted on National Hydr			
	X G	Bleyed or Low-Chroma	Colors		Other (Explain in Rema	rks)		
			WETLAND	DETER	MINATION			
Hydrophy	tic Vegetatio	n Present? X Yes	s No					
	Hydrology Pr	resent? X Yes	s No					
Hydric So	oils Present?	X Yes	S No	Is this Sar	npling Point Within a Wetl	land? X	Yes	No
Remark	KS:							
W-380	is developi	ng into a wetland are	ound the frin	ge areas.				

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Highway 212 Wetlands PHOTOGRAPH LOG

Wetland	Photo	Photograph Description	Compass
#	Location		Reading
369 ¹	A	wetland view toward inflow area	78
369	В	wetland view toward road	16
369	C	wetland view toward outflow from below road edge	124
369	D	wetland view toward upstream drainage	110
369	Е	west side of wetland	268
369	F	erosion issues below road edge	~110
380	A	inlet	86
380	В	intermittent drainage from east	48
380	C	inlet	10
380	D	outflow (left side in photo)	314
380	Е	from east drainage to road and outlet-side of wetland	152

The wetland number refers to the station number on the plan map (wetland 380 is higher in elevation and a greater distance from Lame Deer than 369 along Hwy. 212).

COMMENTS/PROBLEMS: Note erosion problems in Wetland 369.

(Also, across the road from W-380, sediment entering mountain (?) beaver pond from steep road embankment.)





Location: A **Description:** Wetland view toward inflow area **Compass Reading:** 78°



Location: C **Description:** Wetland view toward outflow fro below road edge **Compass Reading:** 124°



Location: E **Photo Frame:** 9A **Description:** West side of wetland **Compass Reading:** 268°



Location: B **Description:** Wetland view toward road **Compass Reading:** 16°



Location: D **Description:** Wetland view toward upstream drainage **Compass Reading:** 110°



Location: F **Photo Frame:** 8A **Description:** Erosion issues below road edge **Compass Reading:** ~110





Location: A **Description:** Inlet **Compass Reading:** 86°



Location: B **Description:** Intermittent drainage from east **Compass Reading:** 48°



Location: C **Description:** Inlet **Compass Reading:** 10°



Location: D **Description:** Outflow (left side in photo) **Compass Reading:** 314°



Location: E **Description:** From east drainage to road and outlet-side of wetland **Compass Reading:** 152°



N	IDT MONTAN	A WETLAND A	199F2	SMENTFORM	i (revised May 25	, 1999)		
1. Project Name: Lame Deer-Eas	<u>st</u>	2. Pr	oject #:	-130091040	Control #:			
3. Evaluation Date: <u>6/23/2003</u>	4. Eval	uator(s): <u>LB/LWC</u>		5. W	etland / Site #(s): W-3	<u> 669</u>		
6. Wetland Location(s) i. T: 2	<u>S</u> R: <u>42</u> <u>E</u>	S: <u>28</u>		T: <u>N</u> R:	<u>E</u> S:			
ii. Approx. Stationing / Milep	osts:							
iii. Watershed: <u>10100003</u>		GPS Reference No.	(if appl	ies):				
Other Location Informatio	n:							
7. A. Evaluating Agency LWC B. Purpose of Evaluation: Wetlands potentially a Mitigation wetlands; Mitigation wetlands;	pre-construction	8. Wetland oject 9. Assessm	`	a (total acres):	_ (visually estimated) _ (measured, e.g. GPS) (visually of the control of th	estimated)	
Other	bost-construction							
10. CLASSIFICATION OF WE	TLAND AND AO	HATIC HARITATS	IN A A					
HGM CLASS ¹	SYSTEM ²	SUBSYSTEM ²		CLASS ²	WATER REGIN	IE ²	MODIFIER ²	% OF AA
Depression	Palustrine	None	Unco	nsolidated Bottom	Intermittently Exp	osed	Excavated	94
Riverine	Riverine	Upper Perennial	Unco	nsolidated Bottom	Permanently Floo	ded		5
Depression	Palustrine	None	Em	ergent Wetland	Intermittently Exp	osed		1
¹ = Smith et al. 1995. ² = Coward	in et al. 1979.		•			•		
11. ESTIMATED RELATIVE A Common Comme 12. GENERAL CONDITION O	nts:	·		·	ontana Watershed Basir	1)		
i. Regarding Disturbance:	(Use matrix below	to select appropriate i	_		jacent (within 500 Feet)	Γο Δ Δ		
Conditions Within AA	state; is not	ed in predominantly nature grazed, hayed, logged, or inverted; does not contain	ral	Land not cultivated, but or hayed or selectivel	out moderately grazed	Land cul- subject to clearing,	tivated or heavily grazed o substantial fill placeme or hydrological alteratio uilding density.	nt, grading,
AA occurs and is managed in predomin	antly			or oundings.		roud or b	unung uchsity.	
a natural state; is not grazed, hayed, log or otherwise converted; does not contain roads or occupied buildings.								
AA not cultivated, but moderately graze hayed or selectively logged or has been subject to relatively minor clearing, or f placement, or hydrological alteration; contains few roads or buildings.				moderate	disturbance			
AA cultivated or heavily grazed or logg subject to relatively substantial fill placement, grading, clearing, or hydrole alteration; high road or building density	ogical							
Comments: (types of dist encompassed by open water area. downstream reach but it is not the ii. Prominent weedy, alien,	Culvert is occluded result of surface flo & introduced spe	by sediment and debrus. cies: Canada thistle	is; water	r seeps under or arou			-	
iii. Briefly describe AA and	d surrounding land	d use / habitat: <u>HWY</u>	212 is u	pslope from area.				

13. STRUCTURAL DIVERSITY (Bas	ed on 'Class' column of #10 abo	ove.)	
Number of 'Cowardin' Vegetated Classes Present in AA	≥3 Vegetated Classes or ≥ 2 if one class is forested	2 Vegetated Classes or 1 if forested	= 1 Vegetated Class
Select Rating		Moderate	

Comments: There are some shrubs on opposite bank; steep bank and inundation on that side of pond.



14A. F	AA is Documented								NED ()R E	NDAN	GERED	PLA	NTS A	ND A	NIMA	LS				
	Primary or Critical h Secondary habitat (li Incidental habitat (li No usable habitat	ist species))	□ D □ D □ D	□ s □ s																
ii.	Rating (Based on th	e stronges	t habitat c	hosen	in 14 <i>A</i>	A(i) al	bove, i	find th	ne corr	espor	nding r	ating of I	ligh (Н), Мо	derate	(M), c	or Lov	v (L) f	or this	funct	ion.
Highe	st Habitat Level	doc/prim	nary s	us/prin	nary	doc	c/seco	ndary	sus	/seco	ndary	doc/ind	ident	al su	s/incio	dental		none	•		
Funct	ional Point and Rating											-						0 (L)		
	If documented, list	the source	e (e.g., ob	servat	ions, r	ecord	s, etc.)):												_	
14B. H	ABITAT FOR PLANT Do not include special AA is Documented	cies listed i	in 14A(i).						BY T	HE M	IONT	ANA NA	TUR	AL HE	RITA	GE P	ROG	RAM.			
	Primary or Critical h Secondary habitat (li Incidental habitat (li No usable habitat	ist species))	□ D □ D □ D	□ S □ S																
iii	. Rating (Based on th	ne stronges	t habitat c	hosen	in 14E	3(i) ab	bove, f	find th	e corr	espon	ding r	ating of H	Iigh (H), Mo	derate	(M), c	or Lov	v(L)f	or this	funct	ion.
	st Habitat Level:	doc/prim	nary s	us/prin	nary	doc	c/seco	ndary	sus	/seco	ndary	doc/ind	cident	al su	s/incio	dental		none)		
Funct	ional Point and Rating If documented, list											-	-					0 (L)		
i.	stantial (based on any of observations of scatter common occurrence of adequate adjacent upl interviews with local wildlife Habitat Feat rating. Structural divertating recent composition.	of Rating I wildlife useful and wildlife in such as so wildlife in such and food so biologists wildlife in such as will be wildlife in such as will be wildlife.	use in the wing) fe #s or hi cat, tracks labitat fea with know ling) e groups o sign such ources with know cking from m #13. Fo AA (see #1	AA: (gh spe , nest: tures n yledge or indivas sca yledge top top top or class	(Check cies di structu tot ava of the viduals t, track of the	versitives, ggilable AA s or ress, nes AA m, seler to been of S	ty (dur ty (dur tin the clative st structure lect ap	ring ar rails, e e surro ely few ctures, opropri	ny perietc. oundin speci , game	od) g area es du trails A attr y dist	ring pes, etc.	Low ([[[]] cak period to determ d, vegetat	fer litt sp interior list sp interior li	w or no de to no arse adj erviews e excep sses mu (I = sea	wildli wildli acent is s with otional ist be is sonal/i	fe obsife sigupland local be (E), h	ervati n I food piolog nigh (I 20%	source ists wi H), mo of eac	es th kno derate h othe	owledg (M), r in te	
	Structural Diversity (fr					□I	High						×Ι	/loderat	e					ow	
	Class Cover Distribution (all vegetated classes) Duration of Surface W				Even			Ut	neven			□Ever			⊠Uı	neven	ı		□E	ven	
	10% of AA	ater in ?	P/P	S/I	T/E	A	P/P	S/I	T/E	Α	P/P	S/I T/	E A	. P/P	S/I	T/E	Α	P/P	S/I	T/E	A
	Low disturbance at AA	A (see #12))										-								
	Moderate disturbance	at AA											_	Н							
	(see #12) High disturbance at A	A (#10								_							_				
iii	. Rating (Using 14C(i) a for this function.)		•												l.	l .		 I), mo			
	Evidence of Wildlif	e Use				Wild				ures		g from 14									
	from 14C(i)		☐ E	xcepti	onal	\bot		Hig	gh			Moderate			Lo	w	_				
	Substantial					_						.8 (H)					_				
	Moderate					_											_				
	Low																				

Comments: The surrounding upland and stream corridor is prime habitat for ungulates and migratory birds.



14D. GENERAL FISH/AQUA If the AA is not or was not histor Assess if the AA is used by fish barrier, etc.]. If fish use occurs i [14D(i)] below should be marked	or the existing situation in the AA but is not des d as "Low", applied acc	to lack of habitation is "correctable ired from a resocordingly in 14E	" such that ource man O(ii) below	ive grad at the A. agemen w, and n	dient, t A coul nt persp noted in	ld be use pective (n the cor	ed by fish e.g. fish mments.	n [e.g. fish us use within a	e is preclu n irrigation	n canal],	then 1		
i. Habitat Quality (Pick the app	_	in matrix to pic										/E-1	1
Duration of Surface Water in AA		. (Perm	anent/P	erennı	al	∐Se	asonal / Inter	mittent	ш	Temp	orary / Epl	nemeral
Cover - % of waterbody in AA c submerged logs, large rocks & b floating-leaved vegetation)			25%	10-25%	<	10%	>25%	10-25%	<10%	>259	%	10-25%	<10%
Shading - >75% of streambank of													
riparian or wetland scrub-shrub of Shading – 50 to 75% of streamba													
riparian or wetland scrub-shrub o													
Shading - < 50% of streambank or riparian or wetland scrub-shrub or				M									
iii. Rating (Use the conclusions fro	vaterbodies in need of I duce the rating from 14	MDL developm D(i) by one leve	nent' with el and che below to pi	'Proback the r	lble Im modific unction	npaired Ued habita	Jses' list at quality nd rating	ed as cold or rating: [of exceptional	warm wa B =	ter fishe	ry or a	iquatic life	support?
Types of Fish Known or						bitat Qu	iality fro	m 14D(ii)				_	
Suspected Within AA	☐ Exception	al	[☐ High	1			Modera Modera	te			Low	
Native game fish													
Introduced game fish								.6 (M)					
Non-game fish													
No fish Comments: Stream reach wit			l = = e t = e		-1-1		.f l						
Applies only to wetlands si If wetlands in AA do not fl i. Rating (Working from top to function.)	looded from in-channel bottom, mark the appro-	or overbank flo	w, check	NA abo	unctio		t and rat			ate (M),			
Estimated wetland area in AA su	• •		7.50/	□ ≥ 10			750	<10, >2				≤2 acre	
% of flooded wetland classified a		o, or both	75%	25-7		<25%	75%	_			5%	25-75%	<25%
AA contains no outlet or restric AA contains unrestricted outlet											-		.1 (L)
ii. Are residences, businesses, Comm 14F. SHORT AND LONG TE Applies to wetlands that fle If no wetlands in the AA ar i. Rating (Working from top to Abbreviations: P/P = perman	RM SURFACE WAT ood or pond from overtre subject to flooding o bottom, use the matrix ent/perennial; S/I = sea	ER STORAGE cank or in-chann r ponding, check below to arrive sonal/intermitte	E Can be detected outlet be	NA (precipitate) NA (precipitate)	oroceed ation, u	gged. d to 14G upland so and ratio	ng of hig	ow, or groun	dwater flo	w.		·	,
Estimated maximum acre feet of the AA that are subject to period	ic flooding or ponding.	lands within		□ >5 a	cre fee			□ <5, >1 ac	re feet			≤1 acre f	
Duration of surface water at wet			P/P	S/		T/E	P/P	S/I	T/E		/P	S/I	T/E
Wetlands in AA flood or pond 3											(M)		
Wetlands in AA flood or pond < Comments:	5 out of 10 years			-	-					-			
Applies to wetlands with p If no wetlands in the AA a	otential to receive exce re subject to such input	ss sediments, nu , check NA abo	itrients, o ve.	r toxica	nts thr	ough int		urface or gro			•		-)
i. Rating (Working from top to								body on MDE					11.)
Sediment, Nutrient, and Toxicant Inp Levels Within AA	to moderate l other function	or surrounding lan evels of sediments as are not substant a, sources of nutri a present.	, nutrients, ially impai	, or compred. Mir icants, or	oounds nor r signs (such that	develo toxica delive other	opment for "pr ents or AA recor in high levels of functions are s es of nutrients	obable causeives or sure f sediments ubstantially	es" relate ounding nutrients impaired	d to see land us s, or co l. Majo	diment, nutr e has potent mpounds su or sedimenta	ial to ch that tion,
% cover of wetland vegetation in AA		≥ 70%		< □ <				≥				□ < 70	
Evidence of flooding or ponding in A		☐ No	⊠ Ye	es		No		Yes				Yes	☐ No
AA contains no or restricted outlet			 6 (M							-			
AA contains unrestricted outlet		-	.6 (M)						-	1		



Comments:

A	pplies	only if	AA o	ccurs on		n the ban		iver, strean	NA (proce n, or othe			nan-m	nade drai	nage, o	or on the	shore	line of	a stand	ing water b	ody th	nat is
				to bottom				e at the func							moderate	(M), o	or low (L) for thi	is function.		
s		ne by sp			ep, bindi	nσ		ent / Peren					ermittent		Tempo	orary /	/ Epher	neral			
			³ 65									-									
			< 35					3 (L)													
Comme	ents:																				
i. Rati A = a subs	ng (Wo	orking for e of vegoutlet;	rom t etate P/P =	op to bo d compo = permar	ttom, use onent in the nent/pere	the math he AA. I nnial; S /I	$\mathbf{B} = \text{struct}$ $\mathbf{I} = \text{season}$	to arrive a	sity rating ttent; T/I	g from E/A= to	#13. (empor	C = Y ary/ep	es (Y) o	r No (N l/absen	l) as to v	hethe	er or no	t the A	for this fur A contains	a surf	ace or
A B		High			mponent oderate		Low		∐ Vege ligh		compos Modera		l-5 acres	Low	Г	Hig	_		omponent - Ioderate		e Low
C]N	□ Y	□N	□Y	N	□ Y	□N	Y]N	Y				,n □N	⊠Y	□N	□Y	
P/P																-		.6M			
S/I T/E/A																-					
Comme	ents:				<u> </u>	<u> </u>	<u> </u>			ı											
;;; 10		Vegeta Wetlan Seeps AA pe Wetlan Other	ation nd oc are p erman nd co	growing curs at the resent at nently floo ntains an	he toe of the wetl ooded du n outlet, l	dormant s a natural and edge ring drou out no in	ght perio	ds.	a tabla ba	alow to	□ W □ Oi	etland ther	d contair	is inlet	but not o	outlet.			npeding lay		unction
111. 18	aung:	Use th	ie iiii	ormanor		Criteria	14j(11) ab	ove and th	e table be	elow to	arrive	attn			al Point			(п) ог	10W (L) 10I	uns n	inction.
							or more	indicators	of D/R pi	resent					1 (H)						
					tors pres		equate to	rate AA [)/R noten	ntial											
Comme		Discila	ige/i	cenarge	miorma	tion mad	equate to	Tate AA L	/K poten	itiai											
14K. U i. Rati	_			top to bo	ottom, us	e the mat	trix belov	w to arrive	at the fur	nctiona						_	M), or	low (L)) for this fu	nction	
	•	acement !			(> as	>80 yr-old ssociation) forested listed as "	, warm sprin wetland or p S1" by the N	lant ATNHP.		types or cor by the	and st ntains p		iversity ciation	(#13) is h isted as "	igh S2"	types	or associ ity (#13)	ontain previous and so is low-mod	tructura erate.	ıl
Low dis				from #11	1	□rare	e	common	□abu		□r		□com		□abun	dant	□ra	re	⊠common_		abundant
			,	AA (#12i)				_		-			-					.3L		
High di		nce at A	AA (#	12i)																	
i. ii. iii	ECRE Is the Chec . Base	e AA all k categ ed on th Yes [Pi	know ories ie loc rocee	vn recres s that ap cation, d ed to 14L	ply to th iversity, . (ii) and	or educate AA: size, and then 14L	tional site Education I other site L(iv).]	ational / sc ite attr <u>ib</u> u	ientific stees, is the look of [Rate and rating and rating stees]	tudy ere a s as low ng of hi	trong in 14L	Consu poter (iv)]	amptive i	rec. recrea	☐ No tional o	n-con	sumpti cationa	ve rec. ll use?	ed to 14L(i □ Otho		
		vnership		in		Lov	v		☐ Mode	erate				High							
	Pu	blic ow	nersh	пр									-	-							

Private ownership -Comments: Tribal member informed me that this area is fished.



FUNCTION, VALUE SUMMARY, AND OVERALL RATING

Function and Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0.00	1	
B. MT Natural Heritage Program Species Habitat	L	0.00	1	
C. General Wildlife Habitat	Н	0.8	1	
D. General Fish/Aquatic Habitat	M	0.60	1	
E. Flood Attenuation	L	0.10	1	
F. Short and Long Term Surface Water Storage	M	0.40	1	
G. Sediment/Nutrient/Toxicant Removal	M	0.60	1	
H. Sediment/Shoreline Stabilization	L	0.30	1	
I. Production Export/Food Chain Support	M	0.60	1	
J. Groundwater Discharge/Recharge	Н	1.00	1	
K. Uniqueness	L	0.30	1	
L. Recreation/Education Potential	Н	1.00	1	
	Totals:	5.70	12.00	3
	Percent of	Total Possible Points:	48% (Actual / Possible) x 100 [rd to nearest whole #]

Score of 1 funct Score of 1 funct Score of 1 funct	l: (Must satisfy one of the following criteria. If not proceed to Category II.) ional point for Listed/Proposed Threatened or Endangered Species; or ional point for Uniqueness; or ional point for Flood Attenuation and answer to Question 14E(ii) is "yes"; or Possible Points is > 80%.
Score of 1 funct Score of .9 or 1 Score of .9 or 1 "High" to "Exce	d: (Criteria for Category I not satisfied and meets any one of the following Category II criteria. If not satisfied, proceed to Category IV.) ional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or functional point for General Wildlife Habitat; or functional point for General Fish/Aquatic Habitat; or eptional" ratings for both General Wildlife Habitat and General Fish / Aquatic Habitat; or tional point for Uniqueness; or possible points is > 65%.
☐ Category III W	etland: (Criteria for Categories I, II, or IV not satisfied.)
Category IV Wetlan "Low" rating for "Low" rating for	etland: (Criteria for Categories I, II, or IV not satisfied.) nd: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; If not satisfied, proceed to Category III.) r Uniqueness; and r Production Export / Food Chain Support; and possible points is < 30%.
Category IV Wetlan "Low" rating for "Low" rating for Percent of total	nd: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; If not satisfied, proceed to Category III.) r Uniqueness; and r Production Export / Food Chain Support; and



MDT MONTANA WETLAND ASSESSMENT FORM (revised May 25, 1999)

147	DI MONTA	WEIEIN	110010	DIVILITY I OILLY	1 (10 vised ividy 22	, 1,,,,		
1. Project Name: Lame Deer-Ea	<u>st</u>	2.	Project #:	<u>-130091040</u>	Control #:			
3. Evaluation Date: <u>6/23/2003</u>	4. Eval	luator(s): <u>LB/LW</u>	<u>C</u>	5. W	etland / Site #(s): W-3	<u>880</u>		
6. Wetland Location(s) i. T: 2	<u>S</u> R: <u>42 E</u>	S: <u>28</u>		T: <u>N</u> R	: <u>E</u> S:			
ii. Approx. Stationing / Milep	oosts:							
iii. Watershed: <u>10100003</u>		GPS Reference	No. (if appl	lies):				
Other Location Informatio	n:							
7. A. Evaluating Agency <u>LWC</u>		8. Wetla	and Size (to	otal acres):	_ (visually estimated) _ (measured, e.g. GPS)			
B. Purpose of Evaluation: Wetlands potentially a Mitigation wetlands; Mitigation wetlands; Other	pre-construction	roject 9. Asses	ssment Are	ea (total acres):	(visually one of the control of the			
10. CLASSIFICATION OF WE	TLAND AND AQ	UATIC HABITA	TS IN AA					
HGM CLASS 1	SYSTEM ²	SUBSYSTEM	2	CLASS ²	WATER REGIN	1E ²	MODIFIER ²	% OF AA
Depression	Palustrine	None	Unco	onsolidated Bottom	Permanently Floo	ded	Excavated	60
			Em	nergent Wetland	Saturated			40
Riverine	Riverine	Upper Perennial	Unco	onsolidated Bottom	Permanently Floo	ded		1
1 = Smith et al. 1995. 2 = Coward	in et al. 1979.							
12. GENERAL CONDITION O i. Regarding Disturbance:		to select appropria	ite response	:.)				
		** *	Predo	minant Conditions Ad	ljacent (within 500 Feet)			
Conditions Within AA	state; is not	ged in predominantly n grazed, hayed, logged onverted; does not con	, or	or hayed or selective	but moderately grazed ly logged or has been ring; contains few roads	subject t clearing,	Itivated or heavily grazed o substantial fill placeme or hydrological alteratio building density.	ent, grading,
AA occurs and is managed in predomin a natural state; is not grazed, hayed, log or otherwise converted; does not contai roads or occupied buildings.	ged,							
AA not cultivated, but moderately graze hayed or selectively logged or has been subject to relatively minor clearing, or placement, or hydrological alteration; contains few roads or buildings.				moderate	disturbance			
AA cultivated or heavily grazed or logg subject to relatively substantial fill placement, grading, clearing, or hydrok alteration; high road or building density	ogical							
Comments: (types of dist	turbance, intensity,	season, etc.) Traffi	ic on Hwy.	<u>212</u>				
ii. Prominent weedy, alien,	, & introduced spe	ecies:						
iii. Briefly describe AA and	d surrounding lan	d use / habitat: HV	VY 212 is t	ipslope from area; Re	eservation land, logged	and fore	sted mosaic.	
13. STRUCTURAL DIVERSIT	Y (Based on 'Class	column of #10 ab	ove.)					
Number of 'Cowardin' Vegetated Classes Present in AA		ted Classes or class is forested	2 Vegetat 1 if fores	ted Classes or ted	= 1 Vegetated Class			
Select Rating					Low			
-	-	-			<u> </u>			



Comments: ____

14A. H	AA is Documented								NED (OR E	NDAN	IGE	RED P	LAN	TS Al	ND A	NIMA	LS				
	Primary or Critical h Secondary habitat (li Incidental habitat (lis No usable habitat	st species)		□ D □ D □ D □ D	□ S □ S																	
ii.	Rating (Based on th	e strongest l	habitat cl	nosen	in 14/	A(i) al	bove, i	find th	ne com	espor	nding r	rating	g of Hig	gh (H), Mod	lerate	(M), c	or Lov	v (L) f	or this	s func	tion.
Highe	est Habitat Level	doc/prima		s/prin			c/seco			/seco		_	oc/incid		_	s/incid			none		1	
Funct	ional Point and Rating				<u> </u>														0 (L)		
	If documented, list	the source	(e.g., obs	ervat	ions, r	ecord	s, etc.)):														
14B. H	IABITAT FOR PLANT Do not include spec AA is Documented	cies listed in	14A(i).						ву т	HE M	IONT	'ANA	A NAT	URA	L HEI	RITA	GE P	ROG	RAM.			
	Primary or Critical h Secondary habitat (li Incidental habitat (li No usable habitat	st species)		\square D	□ S □ S	Ra	na pip	oiens?'	<u>?</u>													
iii	. Rating (Based on th	e strongest l	habitat cl	osen	in 14F	3(i) al	bove, f	find th	ie cori	espor	ding r	rating	g of Hig	gh (H), Mod	lerate	(M), c	r Lov	v (L) f	or this	func	ion.
	est Habitat Level:	doc/prima	ry su	s/prin		doc	c/seco	ndary	sus	/seco	ndary	do	oc/incid	lental	sus	s/incio	lental		none)		
Funct	ional Point and Rating			.8 (H																	_	
<u>II</u>	If documented, list	the source	(e.g., obs	ervat	ions, r	ecord	s, etc.)): <u>Ob</u>	served	doze	ns of f	frogs	in the	water	and le	eping	off the	bank	; coul	l not s	get a p	<u>ositive</u>
Mod	stantial (based on any of observations of abund abundant wildlife sign presence of extremely interviews with local observations of scatter common occurrence of adequate adjacent uples interviews with local of the wildlife Habitat Feat rating. Structural diverse their percent composition T/E = temporary/ephenostructural Diversity (from the summary of the structural Diversity (from the summary of the summary o	ant wildlife a such as scalimiting hal biologists with the following the following of wildlife of wildlife signand food sour biologists with the following the food sour biologists with the food source (Working Strome on in the AA heral; A= ab	#s or hight, tracks, bitat feats ith know g) groups o groups o gn such a arces ith know hing from #13. For A (see #1	nest : ures n ledge r indi as sca ledge top to	structus of ava of the viduals t, track of the botto s cover	res, gilable AA s or ress, nes AA m, se r to be n of S	game to e in the elative st structure lect appe consi	rails, e surro ly few ctures, opropr idered	speciate A	g area les du e trails A attr	ring pos, etc.	eak p	periods etermin	few little spar interinterinterinterinterinterinterinter	or no e to no se adja rviews excep ses mu	wildli wildli acent i with tional st be	fe obsife sigupland local be (E), h	ervati n food piolog	source sists with	es th kno derate h othe	owled	
	Class Cover Distribution					ı	High					_		MI	oderate							
	(all vegetated classes)			I	Even			∐Uı	neven				Even			∐Uı	neven				ven	
	Duration of Surface W	ater in ?	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
	10% of AA Low disturbance at AA	(see #12)																				
	Moderate disturbance																					
	(see #12)										Н			-								
	High disturbance at A	A (see #12)																				
iii	. Rating (Using 14C(i) a for this function.)	nd 14C(ii) a	above and	d the 1	matrix	belov	w to ar	rive a	t the f	unctic	nal po	oint a	ınd ratir	ng of	except	tional	(E), h	igh (F	H), mo	derate	(M),	or low (L)
	Evidence of Wildlife	e Use				Wild	dlife H	Iabita	t Fea	tures	Ratin	g fro	m 14C	(ii)				1				
	from 14C(i)		□ Ех	cepti	onal			Hig					lerate			Lo	w	7				
	Substantial					İ				İ		.8 (H		T				7				
	Moderate																	_1				
	Low																					

Comments: The surrounding upland and stream corridor is prime habitat for ungulates and migratory birds.



14D. GENERAL FISH/AQUA If the AA is not or was not histo Assess if the AA is used by fish barrier, etc.]. If fish use occurs i [14D(i)] below should be market	rically used by fish due or the existing situation in the AA but is not de d as "Low", applied ac	e to lack of habits n is "correctable' sired from a reso cordingly in 14D	such that ource mana O(ii) below	ive grad t the AA agement v, and no	ient, the A could t perspected in	be use ective (the cor	d by fish e.g. fish mments.	l [e.g. fish us use within a	e is preclu n irrigation	n canal],	then I		
i. Habitat Quality (Pick the app Duration of Surface Water in AA		s in matrix to pick	k the exce					e (M), or lov asonal / Inter				orary / Eph	
Cover - % of waterbody in AA		s (e a	Perma	anent/Pe	renniai	ı		asonai / inter	mittent		remp	orary / Epi	lemerai
submerged logs, large rocks & b floating-leaved vegetation)			25%	10-25%	<10	0%	>25%	10-25%	<10%	>259	%	10-25%	<10%
Shading - >75% of streambank of					-	-	-			-			
riparian or wetland scrub-shrub of Shading – 50 to 75% of streamb					+ -	_							
riparian or wetland scrub-shrub	or forested communitie	es.											
Shading - < 50% of streambank riparian or wetland scrub-shrub				M	-	-							
 ii. Modified Habitat Quality: included on the 'MDEQ list of w □ Y ☑ N If yes, re iii. Rating (Use the conclusions from 	vaterbodies in need of duce the rating from 14	TMDL developm 4D(i) by one leve	nent' with	'Probat ck the m	ole Imp nodified	aired U I habita	Jses' list at quality	ed as cold or rating:	warm wa B =	ter fishe	ry or a	quatic life	support?
Types of Fish Known or			ľ		d Habi	itat Qu	ality fro	m 14D(ii)					
Suspected Within AA	☐ Exception	nal		High				Modera Modera	te			Low	
Native game fish				-									
Introduced game fish								.6 (M)					
Non-game fish													
No fish Comments:													
Applies only to wetlands s If wetlands in AA do not f i. Rating (Working from top to function.) Estimated wetland area in AA su	looded from in-channe bottom, mark the appr	el or overbank flo	to arrive	NA abo	unction	al poin	t and rati	ing of high (\square <10,>2		ate (M),		√(L) for th ⊠≤2 acre	
% of flooded wetland classified	· ·		75%	25-75		<25%	75%	25-75%		75	5%	25-75%	<25%
AA contains no outlet or restric		b, or both		23-1.			7.570	23-1370			-	23-1370	<2370
AA contains no outer of Testral							-		-				.1 (L)
 ii. Are residences, businesses, □Y	RM SURFACE WAY ood or pond from over re subject to flooding of bottom, use the matrix ent/perennial; S/I = sea	TER STORAGE bank or in-chann or ponding, check x below to arrive asonal/intermitte	tel flow, p k NA abov at the fun nt; T/E =	NA (prorecipitative.	roceed tion, up	to 14G bland so nd ration) urface flo	ow, or groun h (H), mode	dwater flo	w.	.) for t	his functio	n.)
the AA that are subject to period Duration of surface water at wet		Ţ.	P/P	☐ >5 ac		T/E	P/P	<5, >1 ac	re feet	P		≤1 acre fo	T/E
Wetlands in AA flood or pond ³											(M)		
Wetlands in AA flood or pond <											-		
Comments: 14G. SEDIMENT/NUTRIEN: Applies to wetlands with p If no wetlands in the AA a i. Rating (Working from top to Sediment, Nutrient, and Toxicant Inp	bottom, use the matrix AA receives to moderate	ess sediments, nu t, check NA above below to arrive or surrounding land levels of sediments	at the fund d use has possion, nutrients,	r toxicar ctional p otential to or compo	ooint ar	ugh inf nd ratin r low	Water develo	urface or gro	ate (M), o Q list of wa obable caus	r low (L terbodies es" relate) for the	nis function d of TMDL diment, nutr	ents, or
Levels Within AA % cover of wetland vegetation in AA	sedimentatio eutrophicatio	ons are not substantion, sources of nutricon present.			signs of		delive other	r high levels of functions are sets of nutrients	f sediments ubstantially or toxicants	, nutrients impaired	s, or con	mpounds suor sedimenta	ch that tion, present.
Evidence of flooding or ponding in A			⊠ Ye		70% N	No		Yes	10%	No		Yes	□ No
AA contains no or restricted outlet									- -				
AA contains unrestricted outlet			.6 (M))				-	-				



Comments:

	Appl	ies on	ly if AA	RELINE occurs on on. If this	or withi	n the ban	ks or a riv	er, strean	NA (proce n, or othe			nan-n	nade drai	nage, o	r on the sh	oreline o	f a stanc	ding water t	ody tł	nat is
i. Rati						_									moderate (N	1), or low	(L) for th	nis function.		
				d streamb			uration oj	f Surface	Water Ac	djacen	t to R	ooted	Vegetati	on						
		masse	<i>-</i> 1	s with dec	ep, oman		Permane	nt / Peren	nial	Se	asona	l / Inte	ermittent		∃Tempora	ry / Ephe	meral			
				55 %			1	(H)												
				64 %																
_ L			< 3	<u>85 %</u>												-				
Comn	nent	s:																		
i. Rat	t ing = acr	(Work eage o	ing from f vegetat		tom, use	the matr	ix below S = structi	to arrive a	sity rating	g from	#13.	C = Y	res (Y) o	r No (N) as to who) for this fur AA contains		
A				getated co									1-5 acres			⊠ Ve	getated o	component	<1 acr	e
В			High		oderate		Low		ligh		Mode			Low		High		Moderate		Low
С		☐Y	□N	□Y	□N	□Y	□N	□Y	□N	□Y	_ [ΙN	□Y	□N	□Y	□N	⊠Y	□N	□Y	′ □N
P/P							-									-	.6M			
S/I T/E/A		 																		
Comn			<u> </u>	1				<u> </u>												
A N A	A ha Io Di vaila	S S A S S S S S S S S S S S S S S S S S	Vetland of eeps are A perma Vetland cother Use the in win Disch ge/Recharischarge/	arge/Rech rge indica Recharge	from 14	a natural and edge. ring droug but no inl J(i) and 1 Criteria a or one cent	slopes. ght period et. 4j(ii) abo or more in	ove and the	of D/R pr	elow to	□ o	ther	ne functio	onal poi	nt and ratinal Point an	ng of hig d Rating	h (H) on	low (L) for	r this f	unction.
14K.	UNI	QUE													I), moderately cited rare			.) for this fu		
		_	ment Pote		(> as	>80 yr-old) ssociation	forested w listed as "S	warm sprin vetland or p 1" by the N	lant MTNHP.		or co	ntains e MTN	plant asso NHP.	ciation 1	(#13) is high isted as "S2"	types diver	or assoc sity (#13	contain previ	tructura lerate.	al
				ce from #11		□rare		common	abuı			rare	Com	mon	abundar		rare	⊠common	4	abundant
			at AA (#	7121) AA (#12i)	,						_	-				-	-	.3L		
			at AA (,												_			
Comn														<u> </u>						
i i	i. Is ii. C iii. I	the A heck of Based	A a kno categorie on the lo es [Proce	ed to 14L	ational oply to the versity, (ii) and	e AA: size, and then 14L	ional site ☑ Educa I other sit (iv).]	tional / sc t e attribu \ N	ientific st tes, is the No [Rate a and ratin	tudy ere a s as low g of hi	trong in 14l	Const poter L(iv)]	umptive i	rec. recreat	L(ii) only Non- ional or e	consump ducation	tive recal al use?	_		
		Owne	ership			Low	, <u> </u>		Mode				I	High						
	Ī	Publi	c owners	ship																

Private ownership -Comments: Tribal member informed me that this area is fished.



FUNCTION, VALUE SUMMARY, AND OVERALL RATING

Function and Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	L	0.00	1	
B. MT Natural Heritage Program Species Habitat	Н	0.80	1	
C. General Wildlife Habitat	Н	0.8	1	
D. General Fish/Aquatic Habitat	M	0.60	1	
E. Flood Attenuation	L	0.10	1	
F. Short and Long Term Surface Water Storage	M	0.40	1	
G. Sediment/Nutrient/Toxicant Removal	M	0.60	1	
H. Sediment/Shoreline Stabilization	L	0.30	1	
I. Production Export/Food Chain Support	M	0.60	1	
J. Groundwater Discharge/Recharge	NA			
K. Uniqueness	L	0.30	1	
L. Recreation/Education Potential	Н	1.00	1	
	Totals:	5.50	11.00	1
	Percent of	Total Possible Points:	50% (Actual / Possible) x 100 [rd to nearest whole #]

Score of 1 funct Score of 1 funct Score of 1 funct	d: (Must satisfy one of the following criteria. If not proceed to Category II.) tional point for Listed/Proposed Threatened or Endangered Species; or tional point for Uniqueness; or tional point for Flood Attenuation and answer to Question 14E(ii) is "yes"; or Possible Points is > 80%.
Score of 1 funct Score of .9 or 1 Score of .9 or 1 "High" to "Exco	nd: (Criteria for Category I not satisfied and meets any one of the following Category II criteria. If not satisfied, proceed to Category IV.) tional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; or functional point for General Wildlife Habitat; or functional point for General Fish/Aquatic Habitat; or eptional" ratings for both General Wildlife Habitat and General Fish / Aquatic Habitat; or entional point for Uniqueness; or possible points is > 65%.
☐ Category III W	etland: (Criteria for Categories I, II, or IV not satisfied.)
Category IV Wetlan "Low" rating fo "Low" rating fo	retland: (Criteria for Categories I, II, or IV not satisfied.) nd: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; If not satisfied, proceed to Category III.) or Uniqueness; and or Production Export / Food Chain Support; and possible points is < 30%.
Category IV Wetlan "Low" rating fo "Low" rating fo Percent of total	nd: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; If not satisfied, proceed to Category III.) or Uniqueness; and or Production Export / Food Chain Support; and





